

FLIGHT

&
The AIRCRAFT
ENGINEER.

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.
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NOTICE OF REMOVAL.

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EDITORIAL COMMENT.

"Newspapers are an essential part of our war organisation."
(Sir Auckland Geddes, Minister of National Service.)



SOME weeks ago a communication was sent very extensively round the Press by a body calling itself the "Aeronautical Institute of Great Britain," signed by Mr. L. Blin Desbleds, who describes himself as "Hon. Director." This letter, which obtained wide hospitality in the columns of the trade journals particularly, set forth the urgent need that exists for this country to co-ordinate every source of aircraft supply. According to the communication in question, the best way to begin upon the necessary organisation of latent resources was for the heads of workshops of allied

trades, woodworkers, and engineers to get into communication with the Institute. Then, the Institute would do "its best to co-operate with the authorities and with the larger manufacturers to see how far 'we can utilise all our resources profitably alike for the State, the business proprietors, and the workmen engaged.'"

We have before us a letter from a correspondent, in which he informs us that, having seen the Institute's letter in question on the 4th January, he wrote off on the same day offering to place his services at the Institute's disposal. Being, as he says, a skilled engineer, he naturally imagined that he was just the sort of person to whom the appeal was being made. So he waited for a while, and, receiving no answer, wrote again and enclosed a stamped, addressed envelope for reply. Still hearing nothing from the Institute, on the 22nd January he wrote to "FLIGHT" to see if we could tell him how to get into touch with this work of urgency.

We have made some enquiries about the matter, and all we are able to discover is that there exists a body, which is apparently some sort of off-shoot of the Institute, called the "Aircraft and Production Auxiliary Association"—of which the membership costs a guinea! It does not appear to have any work to give out—at present, at any rate—and we are not at all clear as to its immediate objects except that they are to obtain members at a guinea *per capita*. We do not desire to suggest that the intentions of the "Aeronautical Institute of Great Britain" are not perfectly *bona fide*, but we certainly think its methods of going to work are open to a good deal of possible misconception. Many complaints have reached the journals in which the original letter appeared that a response to the communication simply elicited a suggestion that the correspondent should send along his nimble guinea and become a member of the Institute. In others, where, apparently, the applicant only wanted extra work to help along aircraft production—as in the case of our correspondent—no answer at all has been vouchsafed. The whole scheme seems, on the face of it, to be merely a campaign for increasing the membership of the Institute, and for attracting recruits to the subsidiary organisation. If that is so—and we do not think we are doing any substantial injustice by so regarding it—all we can say is that it seems to be a case of very questionable tactics.

We have had occasion in the past to find fault with

the methods of this "Aeronautical Institute of Great Britain," which is not an institution of any recognised official standing, and only came into existence a year or two ago. It must in nowise be confounded with the Aeronautical Society of Great Britain, which is the oldest aeronautical body in this country, and is a highly useful body. We are very much inclined to think that a large number of people who have replied to the Institute's appeal have done so under the impression that it was the *Society* with whom they were communicating, and not an inconsiderable body *camouflaged* under a title which comes as near to that of the other as it possibly can—and a great deal too close for good taste. So far as we can discern, no good at all is likely to come of the Institute's effort to co-ordinate aircraft production along the lines of the letter to which we have referred, while a great deal of harm may—must—be done by failure to answer correspondence at all, or alternatively to clearly indicate to correspondents that what is really at the back of its appeals is a desire to increase its membership. The inference to be drawn is perfectly obvious—any further appeals from the same source should be left to answer themselves.

The Control of the Metal Trade.

With Sir Edward Carson we are more than a little surprised at a great deal of the criticism which has been directed against the Government Bill for the control of the Non-Ferrous Metals Trade for a period after the war. We are as dead set against every unessential official interference with trade and industry as anyone. Any form of State trading or of State control for a day longer than is necessary we are against on principle, but if there is an exception to the rule which is justified on the facts it is surely the case of non-ferrous metals. The critics of the Government measure complain that it is in restraint of trade. Of course it is, and that is why it is needed. It is in restraint of German trade.

Before the war Germany had obtained a practical monopoly of the business. Many of the non-ferrous metals were produced, so far as the major proportion of the world's supply was concerned, in Britain's overseas dependencies, but so skilfully and so thoroughly had the German net been spread that, from the raw material to the finished production, supplies were controlled from Germany. So firmly had German domination of the metal trade been established that since the war we have seen the humiliating spectacle of British firms appealing to the Courts to decide whether or not they will be compelled to adhere after the war to the terms of contracts entered into with Germans for dealing with metals and materials produced in British territories. In a word, we have had to ask the Courts to decide whether or not we have any rights over the minerals dug from our soil. It does seem to us that there is only one question involved in the matter, and that is: Do we want this state of things to be brought about again after the war? If we do, then by all means let the Bill be thrown out. If not, then the Government must have powers over the trade for a sufficiently long period to enable British capitalists to get things going without the interference of Huns and their agents. So far as we can see, there is nothing at all in the Bill that need frighten the British trader who intends to run straight. In effect, it simply gives the Government the right to refuse a licence to any person or firm of doubtful antecedents or whose intentions

may apparently be open to suspicion. We had much rather State control of this or any other trade or industry could be dispensed with, but we frankly cannot see what alternative can be brought forward to take its place where the non-ferrous metals are concerned.

Aerial Activity in the West.

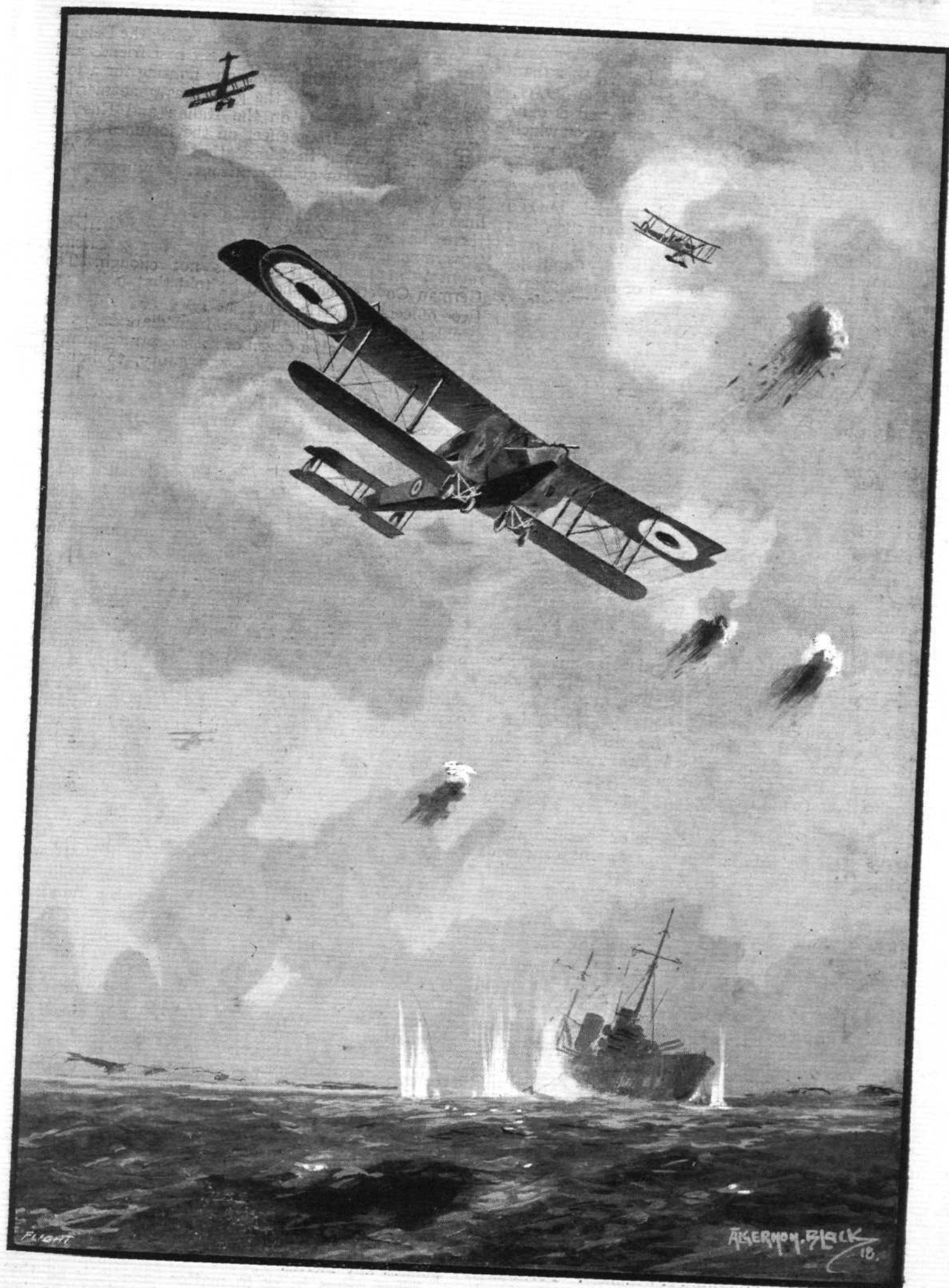
All the official *communiqués* and the despatches of the war correspondents seem to agree that a period of intensive aerial activity has set in all along the Western front. The first results of the feverish speeding up of the German aircraft programme are apparent in the greater number of raids reported over the British and French lines, and in the much greater daring displayed by the enemy's airmen, who now range far afield in search of ammunition dumps and other military objectives—including an occasional hospital—to bomb.

It hardly need be said that all the activity is not on the one side alone. Our own and the French airmen are even busier, raiding far behind the German lines, bombing the enemy's communications and munition areas and generally making the Hun hate every minute of the day and night. But all these detached operations are only preliminary to much greater things when the German command decides that the time has come to loose its threatened offensive. There does not seem to be any room to doubt that such an offensive is in contemplation—in active preparation, it would be more correct to say. Everything points that way. The enemy is massing huge numbers of troops in Belgium, which, thanks to the desertion of the Allied cause by Russia, he is able to do. There can only be one reason for this. According to the most competent estimates, he will have at his disposal this year in round numbers some 250,000 more men than the combined British and French armies. The American military authorities have told us that early this year they will have 500,000 men in France, with another 1,500,000 to closely follow. Now, it is quite clear that if the German command should delay putting fortune to the test, the initial superiority—which is, be it said, not at all a decisive superiority—must before long become an actual inferiority, and by the end of the year a decisive inferiority. That being so, it is equally clear that Germany's only hope of gaining a favourable decision in the West rests on an immediate great offensive which might conceivably produce a favourable result before the American armies can arrive in sufficient numbers to redress the unfavourable balance against the Allies.

It does not fall within the province of "FLIGHT" to discuss where the German blow is likely to fall, or what dispositions should be made to meet it. All that concerns us, for the purposes of this journal, is the adequacy of the Allied aircraft programme. Unquestionably, the side which can secure the command of the air will have an advantage which may well be decisive of the whole issues of the campaign. But, unless the great American aerial programme has been at least partially translated into accomplished facts, it is scarcely probable that either side will be able to claim such an aerial superiority as could be described as "command of the air." All that either can hope for is a definite superiority, and the side which possesses that superiority will start with an advantage which must produce corre-

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Bombing the stranded "Goeben" in the Dardanelles.

spondingly serious results to the other. Will the Allies possess that margin of superiority? We confess we are much more mentally exercised about this than we are about the German excess of man-power, which is not, as we have said, decisive and is only temporary in any case. There is nothing upon which to base a decided opinion. We know that Germany has been straining every nerve to speed up production. We know also that she is, on the one hand, handicapped by the shortage of certain essential materials, but, on the other, she has the great advantage over the Allies of not being particularly concerned about the construction of shipping, and thus has a mass of material and in great measure the resources of her shipyards to draw upon for aircraft construction. Therefore, the race is likely to be more even than at first sight might seem probable.

In spite of strikes and labour troubles in this country, we have no reason to think that our own production has been bad, even if it has not been as good as it might. In fact, we do not think that when the storm breaks our Air Services will be any more starved for machines than its *personnel* will be lacking in gallantry and initiative

**Savage
Hun
Sentence
on
British
Officers.**

It will be remembered that when it was suggested that President Wilson's speech should be dropped over the German lines from aeroplanes, the Huns promptly gave notice that any Allied airmen who were captured in so doing would be treated as spies. No time has been lost in putting the threat into execution, and news has been received in England that Capt. E. L. Scholtz and Second-Lieut. Wookey, of the R.F.C., have been tried by court-martial and sentenced to undergo ten years' penal servitude "for dropping hostile proclamations in Germany." According to a German statement, these two officers were shot down near Cambrai on October 17th, and were sentenced on December 1st.

There is no need to waste time or space in abuse of the Hun for this last outrage on the canons of civilised war. We know he is a brutal materialist, who will stop at nothing in his own advantage so long as he is reasonably certain his outrages will not provoke retaliation in kind. He cannot make his case worse than it is in the eyes of civilisation. For all time he will carry the brand of Cain. The deeds of rapine and violence with which he has disfigured his conduct of the war will remain in the memories of this and succeeding generations so long as history endures, and he will be regarded as an outcast and a filthy beast with whom no decent persons or communities will have dealings of any kind. That being so, one or two more crimes will make his case neither better nor worse, and no one realises that better than he. Therefore, protest is unavailing, and all we have to consider now is what we are going to do about this savage sentence passed upon two British officers for doing their duty. It will certainly not meet the case for our own Government to make formal representations through the Spanish Government. The Hun would merely laugh at it, as he has done before when we have displayed this kind of weakness. Fortunately in this case we have the remedy ready to our hands. This business of propaganda from aircraft is as old as the war itself—and the Hun has had a practical monopoly of it until lately. So long ago as the siege

of Antwerp German airmen were supplied with leaflets to be dropped into the enemy lines, telling the Belgian soldiers that the Germans were their best friends and that they were foolish to continue fighting for a lost cause. Ever since then the game has gone merrily on, in some cases—as on the Italian and Russian fronts—with disastrous effect on the fortunes of the Allies. It follows, therefore, that we must have among our German aviator prisoners a number who have been shot down or compelled to land behind our lines in possession of propaganda literature. Let there be no nonsense, no delay about it. The Government, we are glad to know, has threatened reprisals in kind, but that is not enough. The German Government should be told that unless the two officers concerned are at once released from penal servitude we shall take immediate steps to try not two but half-a-dozen of their captured airmen on similar charges, and, if found guilty, to impose similar sentences. That is the only way in which any impression is to be made, and unless we are shrewdly mistaken it would produce an immediate effect. We know the French have been able by the threat of reprisals to get better treatment for their soldiers who have had the misfortune to fall into the hands of these barbarians—and it is only by these threats and their immediate translation into deeds that it has been effected. We cannot allow two gallant officers to endure the treatment accorded to German criminals without making the most strenuous efforts to save them from so terrible a fate. What are our authorities doing about it? We believe this suggestion of reprisals has been put to the Government, but up to now no assurance has been received that it will be adopted. This is a matter where sentiment has to be disregarded, and in which no considerations of chivalry have weight. The Hun knows no law but that of brute force, and it is only by its exercise in double measure that he can be brought to his senses.

**The
Attitude
of the
A.S.E.**

The situation as between the Amalgamated Society of Engineers, the Government, and the rest of the trade union groups, seems to change almost hourly, so that the ordinary mind is really at a loss to follow its many phases. So far as it is possible to see, the A.S.E. as a whole appears to be standing out for the recognition of the principle that its members, being highly skilled workers, are a caste above and apart from the common herd of trades' unionists—thereby demonstrating that it is imbued with the truest principles of democracy as understood in Russia. Behind that caste feeling, there is also the influence on the executive of those men belonging to the Society who are of military age, but who are nowise inclined to give up their huge wages, their comfortable nights in bed, and the safety of their skins, in order to take their share of the risks of the trenches. With the merits of the three-cornered dispute we do not intend to concern ourselves at the moment, for the very sufficient reason that from the standpoint of the unprejudiced observer the case for the A.S.E. does not appear to possess any merits.

What seems to us to matter—and it is all that matters—is that it is of the utmost importance that no question of procedure should obscure the broad man-power issue, which is that if we are to obtain

enough men to maintain our armies in the field, we must withdraw from our industries a large number of men who are fit for general service and who have hitherto been "protected." The A.S.E. claims that none of its young, skilled men should be recruited until all the "dilutees" have been taken. That is to say, the man of over 40, with a wife and five or six children, who was drafted into the engineering trade since the war, is to be taken for military service before the single young fellow of two-and-twenty who was fortunate enough to be serving his time when the war overtook us. It is perfectly clear that the requisite number of general service men cannot be obtained from among the dilutees, and it is general service men that are wanted—not the C3 men at all. But the attitude of the A.S.E. is: Not a single general service man from our ranks until you have combed-out every dilutee, whether he be blind, halt or lame! That is, briefly, the way the matter appeals to us, when it is divested of the mass of argument and counter-argument in which the issues have been involved. If the Government, with the whole sense of the thinking community behind it in any proper action it cares to take in the matter, will tolerate this sort of thing, then all we have to say is: Heaven help us, for we are past helping ourselves.

German Dreams of Conquest.

Lest any of our readers should be under any delusions as to the aims of Germany in entering upon the war, it may be as well to draw attention to a pamphlet, of which a translation has been published in America, written by one Herr August Thyssen, son of the famous "King Thyssen," the Rhenish multi-millionaire coal-owner. His object in writing this pamphlet, he says, is to open the eyes of Germans to the facts. In 1912 the Hohenzollerns, he alleges, said that war had become necessary to the preservation of the military system upon which their power rests. They then proceeded to enlist the support of the business community on the ground that war would be a paying proposition. The manner in which it was airily proposed to cut up the British Empire is set forth by the writer as follows:—

"I was personally promised a free grant of 30,000 acres in Australia and a loan from the Deutsche Bank of 750,000 dollars (£150,000) at 3 per cent., to enable me to develop my business in Australia. Several other firms were promised special trading facilities in India, which was to be conquered by Germany—be it noted, by the end of 1915. A syndicate was formed for the exploitation of Canada. This syndicate consisted of the heads of 12 great firms, and the working capital was fixed at \$100,000,000 (£20,000,000), half of which was to be found by the German Government.

"These promises were not vaguely given. They were made definitely by Herr von Bethmann Hollweg on behalf of the Emperor to gatherings of business men and in many cases to manufacturers. I have mentioned the promise of a grant of 30,000 acres in Australia made to me. Promises of a similar kind were made to at least 80 other persons at special interviews with the Chancellor, and particulars of these promises were entered in a book at the Trade Department.

"But not only were these promises made by the Chancellor, they were confirmed by the Emperor, who on three occasions addressed large private gatherings of business men in Berlin, Munich, and Cassel in 1912 and 1913. I was at one of these gatherings. The Emperor's speech was one of the most

flowery orations I have heard. The Emperor was particularly enthusiastic over the coming German conquest of India.

"India," he said, "is occupied by [the British; it is, in a way, governed by the British; but it is by no means completely governed by them. We shall not merely occupy India, we shall conquer it; and the vast revenues that the British allow to be taken by Indian princes will, after our conquest, flow in a golden stream into the Fatherland. In all the richest lands of the earth the German flag will fly over every other flag."

There is some reason to believe that Herr Thyssen has written this pamphlet while smarting under a sense of injustice alleged to have been done by his father, who appears to be trying to disinherit him. According to all accounts, this Thyssen junior is a pretty specimen of the species scallywag, but in that he is no more than true to type, and there is thus no reason for disbelieving the story he tells with so much circumstantial detail. Besides, it fits in with all the ascertained historical facts of German preparation for the war which was to end with *Deutschland über Alles*, but looks like having a very different finale if our people remain true to themselves and their traditions.

However hopeful the Hun may be of still being able to snatch a belated victory in the field, he does not seem to be under any delusions as to the reception he is likely to get when he assumes the rôle of peaceful bagman and sets out to do business with the world again. According to Herr Thyssen, the German Foreign Trade Department issued a circular last March to business houses in Germany, advising on their course of action after the war. This precious circular sets forth that:

"It will be wise for employers who have foreign trade interests to employ agents in foreign countries who can pass themselves off as being of French or British birth. German agents and travellers will probably, for some time after the war, have difficulty in doing business, not only in enemy countries, but in neutral countries."

So that is the way the game is to be worked! No doubt a good many of the Huns now being treated in princely fashion in British internment camps are busily fitting themselves by learning good idiomatic English for the task of passing themselves off as "being of British birth." But we are a lot wiser now than we were in 1914, and the Hun will have to evolve a cleverer scheme than that to get his goods into the markets which are controlled by the British—unless, which is not the most improbable thing in the world—our benevolent Government extends the same hospitality to the enemy alien as he enjoyed before the war. Nothing of that sort would surprise us. In such a case, however, we believe we can rely on the memories of our countrymen to see that never again shall the Hun obtain through liberty to trade in our markets the colossal wealth which alone enabled him to prepare for his insane war for world domination. But it ought not to be left at that. The very first thing that will have to be done after the war is to tighten up the Aliens Act, so that it may become a really effective measure for keeping out undesirables whether they attempt to come in *via* the saloon or the steerage, and not the mere travesty it was before 1914. If that is done, there need be no fear of any more "peaceful penetration"—because every Hun is an "undesirable" anyway.

The Air Board and the Hotel Cecil.

THE claim of the Hotel Cecil Company for compensation in connection with the requisition of the Hotel for the Air Board was before the War Losses Commission on January 30th, but was adjourned to enable an involved point of law affecting

the position as to the contract between the Constitutional Club and the Hotel Company to be argued. The company claimed £55,203 per year, with an additional amount to cover rent, retaining fees to staffs, &c. An immediate payment to claimants of £38,000 was ordered.

"Clouds and rain hindered the work of our airmen"

"Will you lead this patrol?" my Flight-Commander asked me. "Keep about 6,000 ft., and look out for two-seaters flying low."

This stunt of Acting-Flight-Leader had fallen to my lot quite often of late, and I was getting used to it.

I saw that the necessary streamer was fixed to my machine, told the remainder of the patrol their positions in the formation, and climbed into my 'bus.

She started up beautifully, and when she was warm enough I ran her up to full revolutions without the slightest trouble. As soon as I saw that the other fellows were ready I waved away the chocks, opened out the engine, and after a short run along the ground, I left it for the uncertainties of the air. The formation soon picked up behind me, and when the "Carry on" signal had been fired from the ground, I headed N.E. for the "Great War."

Huge clouds had collected over the lines, with rain underneath, and there didn't seem much chance of seeing any wily

"Red-noses" or other species of Hun machines. Everything pointed to an uninteresting show, because by the time that I arrived on the line the weather was very bad, and most of the formation had managed to mix themselves up with clouds, out of my sight, a state of affairs almost unavoidable in such weather.

However my old "skipper" Capt. L— was just behind me, so together we climbed above the clouds to try to find some of the lost tribe.

There was no sign of the others there, so L— and I "beetled" off East to see what was around.

We skirted round an enormous pillar of cloud, and then saw below us, through a gap, the Forêt d'H—. The gap soon passed, and we sailed along merrily, unmolested by the "Archy" which is so famous over that shell-torn wood.

Presently we came over a large gap, and at that moment two black-and-white Albatros Scouts appeared, evidently just from beneath the layer of cloud. L— and I saw them simultaneously, and we both dived trying to get them before they saw us. L— got to close quarters before I did, and his Hun went down into the rain and cloud spinning furiously, with L— following. The Hun I had my eye on was climbing hard up to me, firing as he came and making for a thick piece of cloud. When I got close to him ready to commence the battle he did one big turn, "stalled" hard with his nose up to my 'bus, and let go a burst of bullets which did justice to his aim. He then put his nose straight down and disappeared into the cloud. I followed him only a few yards behind and firing hard, but found the clouds much thicker than I thought. When I eventually fell out of them I was practically upside down, and found myself in heavy rain with no sign of the retreating Hun.

The country underneath seemed strange, and since I was under 1,000 ft. up, I had no desire to remain alone over a land where my presence was resented.

Archy got busy with some of his low-shooting stuff, and

the "crack-crack-crack" of machine guns was coming from all sides. After "stunting" for a while to put off the aim of the various gunners, I proceeded to try and fly West to regain my own lines. The rain was blinding, and my goggles were practically opaque with rain drops. If I took them off I couldn't see at all.

Machine-gun fire from the ground was getting too near to be pleasant, and I had to "stunt" to keep out of its way. My compass, due to this turning about, was very unsettled, the card swinging all over the place, so things looked quite bad. I daren't risk climbing through the clouds, as I knew it would be very difficult to keep the 'bus on an even keel, and also I didn't know how thick they were above me.

Presently, however, the rain became lighter, and it was then that I saw six red-nosed Albatros scouts coming up from below. They all took it in turn to "stall" up and fire at me, their various antics leading me to believe that they were enjoying the fun immensely!



"We skirted round an enormous pillar of cloud, and then saw below us, through a gap, the Forêt d'H—."

Being still over peaceful-looking country, I decided to try my luck in the other direction and turn. This I did, and immediately got a perfect hail of bullets about my ears—some of them ripping through the planes and fuselage behind me. The only thing to do now, it seemed to me, was to get up into the clouds, out of sight. I did this. The compass showed that my direction was now due West, and things looked much better. I must have been visible from below occasionally, for bullets still continued to "crack" past.

The time was getting along now, so I decided to come down again. I came out again in heavy rain, and over a large town with smoking chimneys. Of course the ground-Hun got busy again, this time with "Archy," "Flaming Onions" and machine-gun

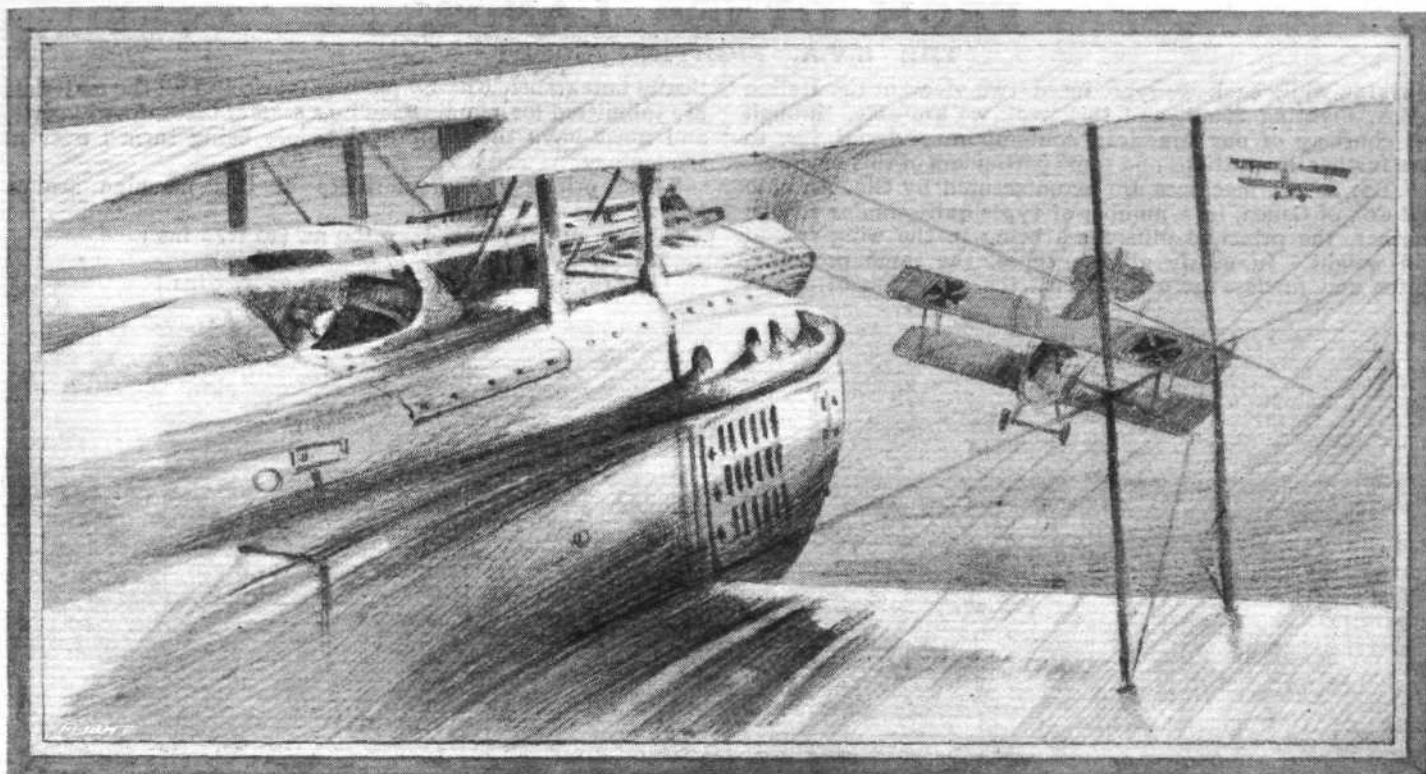
fire, and did his best to ruin my new 'bus, which I had only had for a few days.

The six Hun scouts had evidently been reinforced, for they came up again whilst I was trying to get my bearings, this time ten strong and with three two-seaters following underneath. They gathered around for the slaughter, and again the "battle" commenced, while I did my best to get my "old" 'bus up into the clouds again.

Two of the "Albatros" got very close behind me and let fly. This I could not stand, so I turned quickly and let the nearest one have a handful of lead, which seemed to deter him somewhat, for he dived away East. I did not feel inclined to stay and "scrap" about twelve of them, so I climbed hard for the clouds again.

It was then that the thought of "wind and smoke" struck me. I knew that the wind was due West when I left the ground, so I took a last glance at the smoke on the ground and turned up the wind indicated by the way the smoke was blowing. Now for the final effort. My quick turns had hitherto enabled me to keep fairly clear of the hostile fire, but now I kept straight and trusted to luck.

Before much could happen I was in the clouds, and there I



"I turned quickly and let the nearest one have a handful of lead, which seemed to deter him somewhat, for he dived away East."

stayed. How I managed to keep my 'bus straight in that cloud is a mystery. The rain was as bad as ever, and my goggles had to be wiped every few seconds. When I next came down I was over shell-torn country, and my relief was great. A few belated "Archies" announced their arrival in the customary way, but I was past letting such things as "Archies" bother me then. I was near home, and

when I crossed the line and saw the familiar "Nisson" hut I rejoiced greatly.

Fortunately I recognised the town of A—, and thus knew my position.

I flew around for a while to try and see any other machines, then I "nosed" for home, feeling, well, just a little bit shaken, but ready, nevertheless, for another "show." "CUMULUS."

Honours for the R.F.C.

It was announced in a supplement to the *London Gazette* issued on February 4th that the King has been pleased to confer the following rewards for gallantry and distinguished service in the Field.

Distinguished Service Order.

2nd Lieut. (Temp. Capt.) J. T. B. McCudden, M.C., Gen. List and R.F.C.

2nd Lieut. (A. Capt.) A. E. McKeever, M.C., R.F.C., S.R.
Second Bar to M.C.

2nd Lieut. (Temp. Capt.) A. C. Youdale, M.C., R.F.C., S.R.
(1st Bar gazetted Oct. 27th, 1917, M.C. Sept 26th, 1917).

Bar to Military Cross.

Lieut. (Temp. Capt.) L. J. MacLean, M.C., R.E. and R.F.C.,
(M.C. gazetted October 2nd, 1915).

Military Cross.

Capt. J. C. L. Barnett, Oxf. and Bucks. L.I. and R.F.C.

2nd Lt. (Temp. Capt.) C. E. Barrington, R.F.A. and R.F.C.

Temp. 2nd Lieut. B. D. Bate, Gen. List, and R.F.C.

Temp. Lieut. R. S. S. Brown, Gen. List and R.F.C.

Lieut. (Temp. Capt.) O. C. Bryson, Yeo. and R.F.C.

Temp. 2nd Lieut. P. W. S. Bulman, Gen. List, and R.F.C.

Lieut. (T. Capt.) R. L. Chidlaw-Roberts, Hants. and R.F.C.

Lieut. (Temp. Capt.) J. M. Child, Manch. R. and R.F.C.

2nd Lieut. J. H. Cooper, Arg. and S. Highrs., and R.F.C.

2nd Lieut. W. E. Davis, Glouc. R. and R.F.C.

Lieut. F. H. Dear, R. Suss. R. and R.F.C.

Lieut. (Temp. Capt.) I. A. J. Duff, Dorset R. and R.F.C.

2nd Lieut. R. L. M. Ferrie, R.F.C., Spec. Res.

Temp. 2nd Lieut. A. M. Kinnear, Gen. List, and R.F.C.

Temp. 2nd Lieut. (Temp. Capt.) A. S. Lee, Notts. and Derby and R.F.C.

Lieut. R. F. S. Mauduit, D. Gds. and R.F.C.

Lieut. (Temp. Capt.) V. A. H. Robeson, R.F.C., S.R.

2nd Lieut. (Temp. Capt.) W. W. Rogers, R.F.C., Spec. Res.

Capt. H. T. F. Russell, R. Welsh Fus. and R.F.C.

Temp. Capt. W. H. N. Shakespeare, R.F.C.

2nd Lieut. L. E. Shaw-Lawrence, E. Kent R. and R.F.C.

Temp. 2nd Lieut. (Temp. Capt.) J. A. Slater, Gen. List and R.F.C.

Details of Gallant Deeds.

THE following details of service for which the Distinguished

Service Medal was awarded, as announced on October 22nd, 1917, have now been published:—

77690 1st Class Air-Mech. A. W. CANT, R.F.C.—For conspicuous gallantry and devotion to duty on reconnaissance and offensive patrols. He has on more than one occasion caused great confusion and many casualties amongst hostile infantry by attacking them with his machine gun at a low altitude, and on two occasions has shot down hostile machines which attempted to interfere with his photographic work.

3116 Sergt. W. E. SMITH, R.F.C.—For conspicuous gallantry and devotion to duty in carrying out artillery observation at very low altitudes and during unfavourable weather conditions. As a consequence of his daring, he was subjected to continual heavy rifle and machine gun fire, which on one occasion seriously damaged his machine, but he has at all times shown great perseverance and gallantry, and been most successful in carrying out observation for the artillery with whom he was co-operating. He has twice been brought down by anti-aircraft fire as a consequence of his low flying, but has each time successfully landed on our side of the line.

48027 Pnr. W. T. SMITH, R.E., attd. R.F.C.—Conspicuous gallantry and devotion to duty whilst acting as aerial gunner to an officer. Having shot down an enemy machine, his own pilot was wounded, and fell forward insensible on to the control lever. Pioneer Smith then climbed forward along the plane, pulled the pilot off the lever and got the machine under control. The officer then partially recovered, whereupon he remained standing on the side of the fuselage shouting words of encouragement to him, and the machine was eventually landed without much damage, entirely owing to his exceptionally gallant and prompt action.

4400 Sergt. R. C. TAYLOR, R.F.C.—For conspicuous gallantry and devotion to duty. When sent out with an observer to take important photographs he saw six hostile scouts approaching him. Realising that there would be no further chance of doing the work as clouds were coming up, he continued taking the photographs until the hostile scouts came within fifty yards' range, although his machine was the only British one in the vicinity. He then turned on them, and by skilful manoeuvring enabled his observer to crash one. Another was attacked and driven down in a spin, after which the remaining four retired, and he completed the photographs. He has always shown the greatest determination and gallantry.

FROM OTHER LANDS.

THE S.V.A. FIGHTING SCOUT.

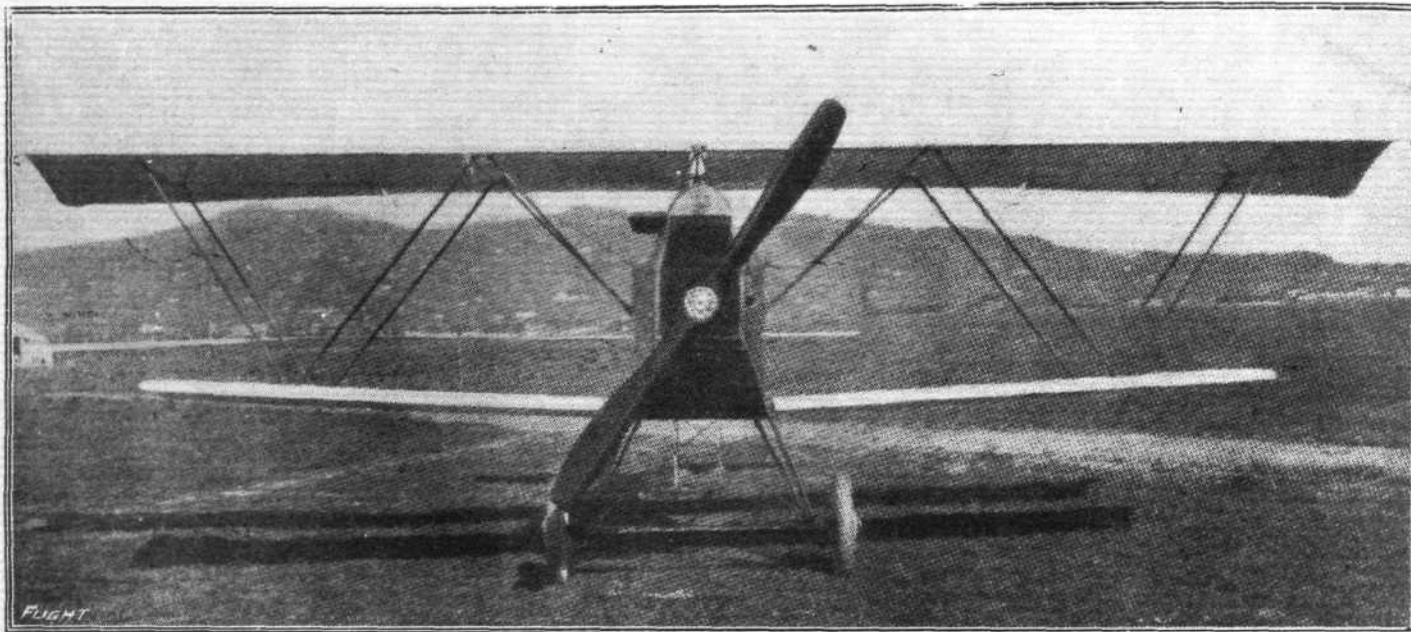
A LITTLE while back we reproduced two views of the Italian S.V.A. Fighting Scout, and this week we are able, through the courtesy of our American contemporary *Aerial Age*, to give further illustrations and some particulars of this machine.

"The S.V.A. machines are manufactured by Gio. Ansaldo and Co., of Genoa, in a number of types quite similar to one another, the principal differences being in the wing spread and weight. In nearly all the types, the same propeller, motor and fuselage are used. With the exception of one of

tically untearable. Every piece of fabric and all the materials are submitted for examination by a staff of laboratory experts, and must have their approval before being turned over to the factory.

"The principal characteristics of this machine are as follows:—

Span, upper plane..	9.100 m. (30 ft. 2 ins.)
Span, lower plane ..	7.600 m. (25 ft.)
Chord, both planes	1.650 m. (5 ft. 5 ins.)



Front view of the Italian S.V.A. fighting scout.

the types, the interplane strut bracing at either side of the body is arranged in the form of the letter N. The machine illustrated here is convertible for water use by replacing the landing gear with twin floats, as illustrated in one of the accompanying views.

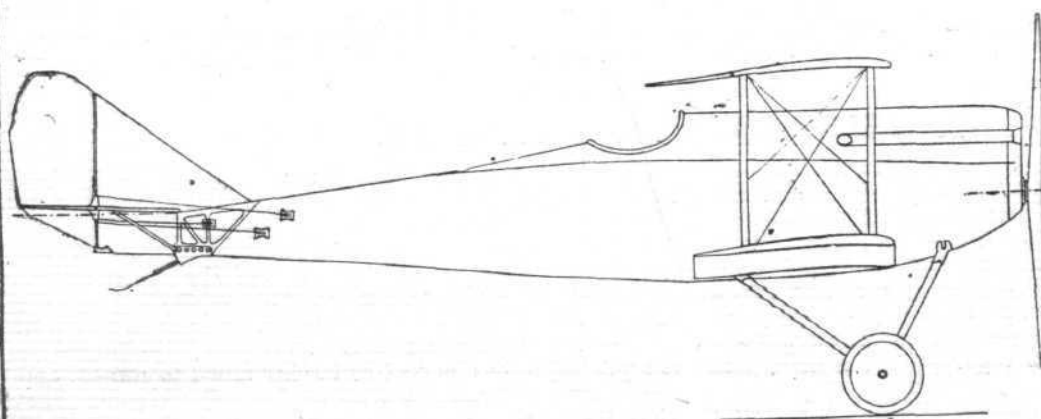
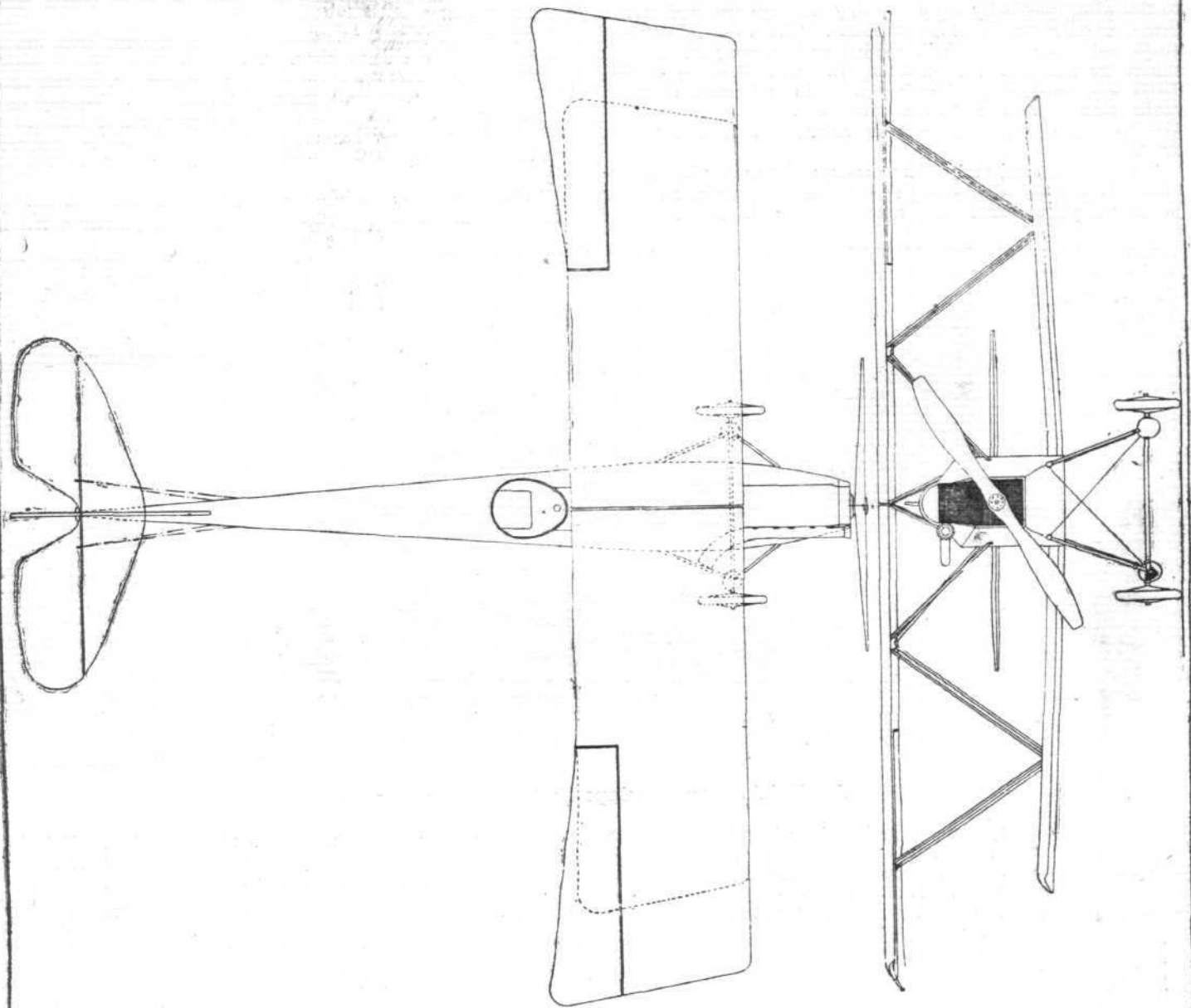
"All the material used in the construction of these machines is tested in laboratories before being installed, and again rigidly inspected when the machine has been tested out in actual flight. The woods are tested for transverse and longitudinal tension and compression, &c. Cables are from eight to ten times as strong as calculations show them to be necessary under extreme conditions. The silk-linen covering is somewhat transparent, and after being treated with dope is prac-

Gap	1.800 to 1.500 m. (5 ft. 11 ins. to 4 ft. 11 ins.)
Overall length ..	8.100 m. (26 ft. 7 ins.)
Overall height ..	3.200 m. (10 ft. 6 ins.)
Weight, empty ..	640 kg. (1,411 lbs.)
Weight, loaded ..	900 kg. (1,984 lbs.)
Motor, S.P.A. ..	210 h.p.
Maximum speed ..	232 km. (125 miles) p.h.
Minimum speed ..	82 km. (45 miles) p.h.
Climb in 14 min. ..	4,000 metres (13,123 ft.)

"The main planes are in four sections. The top plane is a flat span, but the lower plane sections are set at a dihedral angle. The wing curve has a negative tendency at the



Three-quarter front view of the Italian S.V.A. fighting scout.



THE ITALIAN S.V.A.
210 HP SPA MOTORED
FIGHTING SCOUT

CENTIMETERS



McLaughlin

THE ITALIAN S.V.A. FIGHTING SCOUT BIPLANE.—Plan, side and front elevation to scale.

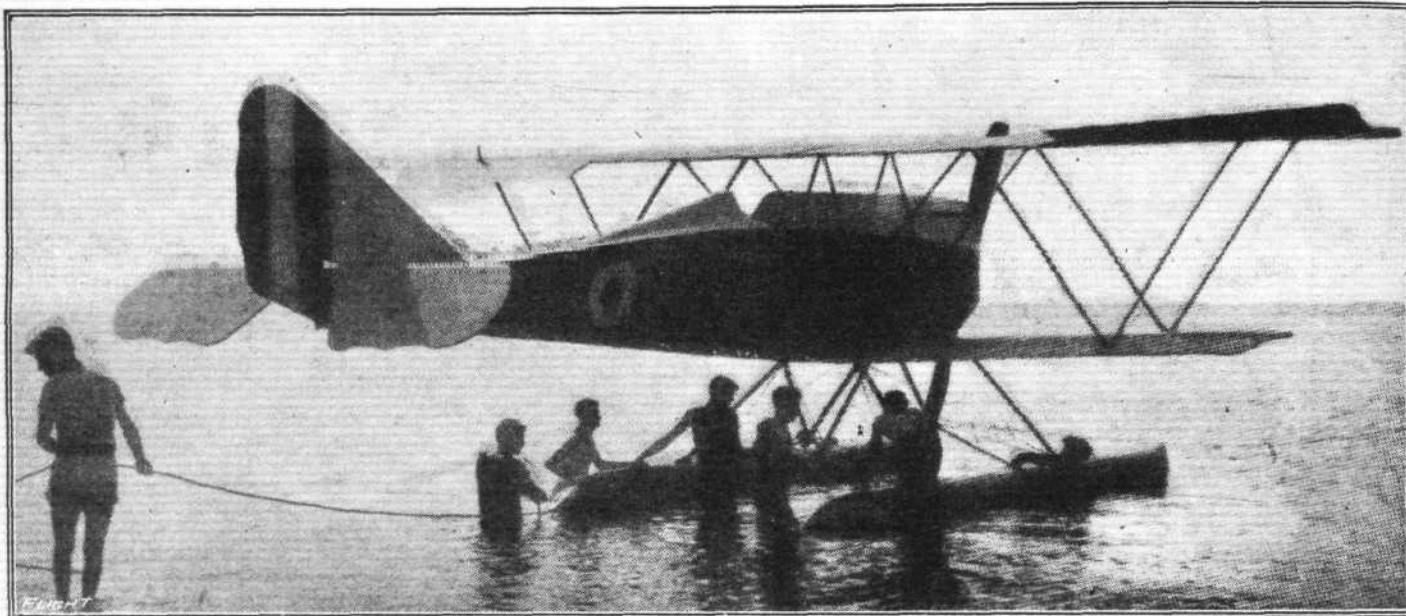
trailing edge, and the planes are given but a slight incidence angle or angle of attack. As in most of the fast Italian machines, the trailing edge is flexible, tending to flatten out the wing curve as the speed of the machine increases. A single set of *aileron*s are hinged to the upper plane. The steel-tube interplane bracing is of the streamline section, and attachment to the wing spar is by a pin running through the end of the brace, parallel to the line of flight. The bracing method employed is such that both the lift and landing stresses are taken by the struts, eliminating the wire bracing cables. Drift and anti-drift cables are used in the usual manner. Main planes have a surface area of about 24.25 sq.m.; the loading of the machine is about 36,700 kg. (about 81 lbs.).

"At the forward end of the *fuselage*, the motor is entirely covered in, and the cowling runs back in a straight line as far as the pilot's seat. The rear curves of the under side of

close to the body. A pair of steel struts support the tail from the *fuselage*. The familiar triangular fin or vertical stabiliser is used, with the rudder hinged to its trailing edge. The lower end of the rudder is carried in a cupped metal fitting attached to the underside of the *fuselage* termination. Control wires run into the body through protective metallic plates with friction reducing guides.

"Steel tube chassis members carry the floating axle, cross-wired in the usual manner. The shock-absorbing rubber elastic is covered in to reduce skin friction. The tail skid is unusual inasmuch as it relies upon a steel leaf-spring skid for its shock-absorbing effect. The upper end of the spring is rigidly clamped to a metal container, from which supports are run to the upper *longerons* of the body, and to the tail plane.

"The engine is a 6-cylinder S.P.A. developing 210 h.p. at 1,600 r.p.m. The propeller is a 2.750 m. (about 9 ft.) in



An S.V.A. scout equipped with twin pontoons.

the *fuselage* are composed of a series of straight lines, and not a continuous curve. A noticeable feature of the *fuselage* is its narrowness in the vicinity of the tail plane, and its exceptional depth forward. The interplane struts sloping outward from the *fuselage* are not connected to the upper *longerons*, but are carried part way down the vertical spacing members between the upper and lower *longerons*. Evidently a compression member is located at such points, running from one side of the *fuselage* to the other. Veneer is used for covering in the body, except at the front end, where the aluminium cowling covers in the engine.

"The leading edge of the tail plane is located at the level of the centre of the propeller thrust, as indicated on the drawing, and the plane is fixed at a negative angle. It will be noticed on the plan view that the tail plane, or horizontal stabilising surface, is exceptionally small, its area being only slightly more than half the area of the elevators. The elevators are worked with short control tillers located

diameter, with a 2.100 m. (6 ft. 11 ins.) pitch. Petrol is carried for an endurance of 3 hours, weight of petrol being 105 kg. (231.48 lbs.) and of oil 15 kg. (33.06 lbs.).

"In the empty machine the weights are distributed as follows: Machine unequipped, 300 kg. (661.38 lbs.); motor, propeller and radiator, 315 kg. (694.45 lbs.); fuel tanks and necessary piping, 25 kg. (55.11 lbs.). Total weight 640 kg. (1,410.95 lbs.). The useful load consists of oil and petrol (120 kg. or 264.55 lbs.), and an additional useful weight of 140 kg. (308.65 lbs.). The loading of the machine per b.h.p. is about 9 lbs.

"This type of S.V.A. machine is also manufactured in what is called the "reduced size," in which the wing span is shortened to 7.570 m. (24 ft. 10 ins.), but otherwise preserving the lines of the "Normal" type. In the smaller machine the total weight is 875 kg. (1,929.04 lbs.), so that with the same powered motor and a change in the angle of incidence of the planes, a much greater speed is obtained."

AIR FIGHTING IN JANUARY.

DURING last month 292 aeroplanes belonging to the German and Austrian Flying Services were reported down, and the Allies, according to the claims of German Main Headquarters, lost 101 machines, says the *Times* in its monthly review. Two of the German machines were brought down on the French front in the last days of December, but their destruction was not officially recorded till the beginning of January, so that the actual total for the month is 391. The aggregate for December, including the two reported last month, was 234.

It is possible, for the first time, to embody in this monthly summary the results of the fighting on the Italian front, owing to the fuller reports which have been included in the official *communiqués* since British and French airmen have been co-operating with the Italian squadrons. The period covered begins towards the end of November, but the really serious fighting took place, and the Allied airmen scored practically all their successes, last month. Sixty-two enemy machines were destroyed and two driven down out of control

on the Italian front. Of this number 39 fell to British airmen—all crashed except two—who achieved these victories with a loss to themselves of only five machines.

British airmen on the Western battlefront, and naval airmen in fighter patrols, accounted for 144 enemy machines—86 destroyed by pilots, and four by anti-aircraft gun and rifle fire, 53 driven down out of control, and one captured intact in our lines. Thirty-nine of our machines (including two naval aeroplanes) were reported as having failed to return, and the loss of three of them was attributed to collisions while over the German lines.

Including the Paris raider, the French have to their credit 81 German machines, of which 50 were crashed, 24 driven down damaged (and of 12 of these it was officially stated that they were probably destroyed), and seven shot down by fire from the ground.

Three enemy aeroplanes were brought down by the Belgians—two in our Ally's lines as the result of fights, and the third by anti-aircraft guns.



ROYAL AERO CLUB OF THE U.K.

OFFICIAL NOTICES TO MEMBERS.

THE FLYING SERVICES FUND,

administered by

THE ROYAL AERO CLUB.

The Flying Services Fund has been instituted by the Royal Aero Club for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependants of those who are killed.

The fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers and men.

Forms of application for assistance can be obtained from the Royal Aero Club, 3, Clifford Street, New Bond Street, London, W. 1.

Subscriptions.

	£	s.	d.
Total subscriptions received to Jan. 29th, 1918	12,549	0	1
Collected by the Rev. Henry Dalzell, M.A., on behalf of Gibraltar R.N. Hospital Chapel			
Offertories (Second contribution) ..	5	5	0
G. H. Mansfield, Managing Director of the Aircraft Supplies Co., Ltd., 125, Long Acre, W.C. 2; Proceeds of the sale of copies of "Standard A.G.S. Parts for Aircraft," by Bernard Isaac (Thirteenth contribution, making a total of £46 6s. 3d.) ..	2	14	5
The Aerodrome Sports Committee of Sir W. G. Armstrong, Whitworth and Co., Ltd. (Second contribution) ..	46	16	0

Total, February 5th, 1918 12,603 15 6

H. E. PERRIN, Secretary.

3, Clifford Street, New Bond Street, W. 1.

THE ROLL OF HONOUR.

REPORTED by the Admiralty:—

Previously Missing, now reported Killed.

Flight-Lieut. J. A. Page, R.N.

Died of Accidental Injuries.

F.27501 Act. Air-Mech. 1st Grade, A. L. Jeffries.

Accidentally Injured.

Prob. Flight Officer O. Drew, R.N.

Prob. Flight Officer C. A. Jones, R.N.

Flight Sub-Lieut. J. C. F. Simpson, R.N.

Missing.

Flight Sub-Lieut. R. A. Blyth, R.N.

Flight Sub-Lieut. J. N. T. Carr, R.N.

Flight Sub-Lieut. E. Morris, R.N.

Flight Sub-Lieut. H. St. J. E. Youens, R.N.

Previously Missing, now reported Prisoner.

Flight Sub-Lieut. J. G. Clark, R.N.

Reported by the War Office:—

Killed.

Lieut. W. S. Bean, R.E., attd. R.F.C.

2nd Lieut. H. M. Beck, R.F.C.

2nd Lieut. E. G. Chance, R.F.C.

2nd Lieut. N. L. Cornforth, R.F.C.

2nd Lieut. W. K. Fenn-Smith, R.F.C.

2nd Lieut. G. A. Park, R.F.C.

Capt. H. G. Reeves, R.F.C.

Brig.-Gen. G. S. Shephard, D.S.O., M.C.

2nd Lieut. A. A. Neale, R.F.C.

Lieut. J. B. Thomas, R.F.C.

Lieut. A. G. de Young, M.C., Nova Scotia, attd. R.F.C.

108859 3rd Air-Mech. J. Chamberlain, R.F.C.

Previously Missing, now reported Killed.

2nd Lieut. S. L. J. Bramley, R.F.C.

Lieut. W. A. Browne, R. Innis. Fus., attd. R.F.C.

2nd Lieut. W. Chivers, R.F.C.

2nd Lieut. N. H. Crow, R.F.C.

Lieut. B. R. Davis, R. Fus., attd. R.F.C.

2nd Lieut. N. W. Goodwin, Middx. R., attd. R.F.C.

2nd Lieut. W. C. V. Higginson, R.F.C.

Lieut. G. C. Holman, R.F.C.

2nd Lieut. J. R. MacKay, R.F.C.

Lieut. P. D. Montague, Rif. Brig., attd. R.F.C.

2nd Lieut. C. F. Pritchard, R.F.C.

2nd Lieut. P. H. Raney, R.F.C.

2nd Lieut. R. E. Taylor, R.F.C.

2nd Lieut. H. V. Thompson, R.F.C.

2nd Lieut. E. D. Tyzack, R.E., attd. R.F.C.

Previously Missing, now reported by German Government Killed or Died of Wounds.

87458 2nd Air-Mech. E. Gilchrist, R.F.C.

Died of Wounds.

Capt. J. Bell, Aus. F.C.

2nd Lieut. G. E. Browne, R.F.C.

2nd Lieut. A. C. Hurst, R.F.C.

2nd Lieut. W. D. G. Murray, R.F.C.

Accidentally Killed.

Lieut. H. P. Freeman, Sask., attd. R.F.C.

Lieut. H. P. Freeman, Sask. R., attd. R.F.C.

Died.

66780 2nd Air-Mech. A. Butterworth, R.F.C.

49659 2nd Air-Mech. A. L. Cameron, R.F.C.

106242 3rd Air-Mech. J. Foy, R.F.C.

78914 2nd Air-Mech. W. Hutchins, R.F.C.

63905 2nd Air-Mech. C. W. Macey, R.F.C.

69956 3rd Air-Mech. A. H. Skingle, R.F.C.

38036 2nd Air-Mech. R. J. Wilson, R.F.C.

Previously Missing, now reported Missing, believed Died.

14262 1st Air-Mech. W. Samways, R.F.C.

Wounded.

2nd Lieut. R. Buchanan, Wilts. R., attd. R.F.C.

Lieut. C. R. Davidson, H.L.I., attd. R.F.C.

2nd Lieut. E. H. M. Fetch, R.F.C.

Lieut. G. Finlay, Aus. F.C.

Capt. F. D. Grant, R.F.C.

2nd Lieut. E. H. Hereford, I.O.R.O., attd. R.F.C.

Lieut. F. D. Howitt, A.S.C., attd. R.F.C.

2nd Lieut. W. G. Ivamy, R.F.C.

Lieut. C. H. Lick, R.F.C.

Lieut. J. S. Owden, I.O.R.O., attd. R.F.C.

Lieut. K. A. Roberts, Aus. F.C.

Lieut. G. E. Rodmell, Buffs., attd. R.F.C.

2nd Lieut. J. L. Rowe, R.F.C.

2nd Lieut. F. Rowland, Buffs., attd. R.F.C.

2nd Lieut. T. R. Whitehead, R.F.C.

11954 2nd Air-Mech. G. P. Carr, R.F.C.

106124 3rd Air-Mech. J. Dunning, R.F.C.

26282 1st Air-Mech. P. T. Elders, R.F.C.

8230 1st Air-Mech. R. Ringrose, R.F.C.

64053 1st Air-Mech. F. A. Tricker, R.F.C.

Missing.

2nd Lieut. E. T. Baker, R.F.C.

Lieut. J. O. Beattie, Brit. Col., attd. R.F.C.

2nd Lieut. F. W. Dogherty, R.F.C.

Lieut. A. Hutchinson, L'pool., attd. R.F.C.

2nd Lieut. C. N. Madeley, R.F.C.

2nd Lieut. F. M. Ohrt, R.F.C.

2nd Lieut. A. R. Paul, R.F.C.

2nd Lieut. A. H. Peile, R.F.C.

Lieut. E. K. Skelton, Can. F.A., attd. R.F.C.

2nd Lieut. B. Starfield, R.F.C.

2nd Lieut. F. B. Willmott, Aus. F.C.

2nd Lieut. A. E. Wylie, R.F.C.

Previously Missing, now reported Prisoners in German hands.

Lieut. L. B. May, R.F.C.

2nd Lieut. R. J. G. Stewart, R.F.C.

50506 2nd Air-Mech. T. L. Quinn, R.F.C.

Previously reported Missing, now reported Prisoner in Turkish Hands.

Lieut. M. G. Begg, M.C., Rif. Brig., attd. R.F.C.

Missing, believed Prisoner in Turkish hands.

2nd Lieut. A. A. Poole, Aus. F.C.

Interned in Holland.

2nd Lieut. Owen Thamer, R.F.C.

"X" AIRCRAFT RAIDS.

IN view of the decision of the Government not to allow details of places visited by enemy aircraft to be published, we are, as before, giving to each one an index number. Eventually, when details are available, we shall give the respective information under these index numbers, which will facilitate easy reference to each particular raid.

"X 87" Raid (January 28th-29th). February 2nd.

"Police reports show that the total casualties so far ascertained as having been caused by the air raid of the night of January 28th-29th in all the districts visited by hostile aeroplanes are as follows:—Killed, 58; injured, 173.

"Of the above casualties 30 persons were killed and 91 injured in a single building used as an air raid shelter. The work of removing the debris in this building has been greatly impeded by the dangerous state of the structure, and it is possible that a few more bodies may yet be discovered. The police have information of four persons in the district who have been missing since the raid took place, and whose bodies have not yet been found."

Replying to questions in the House of Commons on January 29th, Mr. Macpherson said that about 70 British machines went up on January 28th, and all returned safely. On the following evening Mr. Macpherson said that the names of the officers who brought down the Gotha are Capt. G. H. Hackwill, R.F.C., and 2nd Lieut. C. C. Banks, R.F.C.

The bodies of the three occupants of the Gotha were given a funeral of a military character in an Essex village on February 2nd. One coffin bore the inscription "Frederick von Thomsen, Lieutenant, German Flying Corps, killed in action, January 28th, 1918." The inscriptions on the other coffins stated that the bodies were those of German flying men, names unknown.

"X 88" Raid (January 29th-30th).

THE following *communiqués* have been issued by the Field-Marshal Commanding-in-Chief, Home Forces:—

"January 30th, 12.30 a.m.

"Hostile aeroplanes crossed the coasts of Essex and Kent about 9.30 p.m., and some machines attempted to penetrate into London about an hour later. Up to the present none has succeeded in penetrating the London defences, but some bombs have been reported as having been dropped in the outskirts. The raid is still in progress."

"January 30th, 11.15 a.m.

"A number of attacks were delivered against London

by hostile aeroplanes last night between 10 p.m. and 12.30 a.m., but in no case did the raiders penetrate into the capital. The first enemy machines crossed the Isle of Thanet at 9.30 p.m., and proceeded up the Thames Estuary towards London, but were all turned by gunfire. About the same time three or four other raiders crossed the Essex coast; these also failed to penetrate the outer defences of the capital. Meanwhile a single aeroplane, which crossed the Essex coast at 10.30 p.m., passed round the north and west of London and dropped some bombs on the south-western outskirts. At the same time another enemy machine dropped bombs in the north-eastern outskirts without causing any casualties or damage.

"Other aeroplanes which crossed the Kent and Essex coast, between 10.25 p.m. and 10.50 p.m., were all turned back by gunfire at various places on their way to London. A final attack, which was delivered across Essex by three or four machines between 11.30 p.m. and midnight, was equally unsuccessful. Bombs were dropped at various places in Kent and Essex, but detailed reports of casualties and damage have not yet been received from these counties. A few casualties occurred in the south-western outskirts of London. About the same number of machines as on the previous night appear to have taken part in the raid—namely, 15. A number of our aeroplanes went up, and several engagements with enemy machines are reported. One of our pilots attacked a raider over the north-eastern outskirts of London, with the result that it dropped its bombs on open ground, and made off. All our pilots returned safely."

"3.30 p.m.

"Police reports state that the casualties caused in last night's air-raid were:—Killed, 3; injured, 10.

"In addition to the above, the police state that it is feared that six other bodies are buried in the wreckage of a house."

Mr. Macpherson gave the following further details of the casualties in the House of Commons yesterday:—Killed, two men, one woman, total three; injured, seven men, two women, and one child, total ten.

"February 2nd.

"The total casualties caused by the raid of January 29th-31st amount to:—Killed, 10; injured, 10."

German Version.

"Berlin, January 30th.

"Our airmen carried out successful attacks on England and on the north coast of France. Bombs were dropped on London and Southend, as well as on Dunkirk, Gravelines, and Calais."

"Paris, February 2nd.

"The victims of the air raid on the night of January 30th-31st were:—Killed, 33 (including 11 women and two children) in the city; 16 (including three women and three children) in the suburbs. Injured, 134 (including 50 women and 10 children) in the city; 72 (including 38 women and seven children) in the suburbs."

According to unofficial messages the machine brought down was an Aviatik with a 225 h.p. Benz motor. It had on board four 25 lb. bombs and two 110 lb. bombs. The two officers, who were taken prisoner, had a written order to bomb Paris, but to spare the hospitals and schools; they explained that the order was so worded in order to save them from being shot.

German Version.

The following was issued from Berlin on January 31st:—

"On Christmas Eve and during the month of January' enemy airmen, in spite of our warning, have again dropped bombs on open German towns outside the region of operations. Thanks to our measures of defence, the losses and damage were slight. As a reprisal, 14,000 kilogrammes of bombs were dropped during the night of January 30th-31st on the city of Paris, in the first systematic attack from the air."

Foreign Office. Through the Dutch Government the Foreign Office has informed the German Government that it learns from the German Press that these sentences have been passed as punishment for what the Germans describe as a breach of international law. It is further stated that the Foreign Office, after careful examination of international law, finds no reference to any subject concerned with the dropping of propaganda leaflets, that the Germans themselves have adopted this method on a very extensive scale, and that unless Capt. Scholtz and 2nd Lieut. Wookey are released from prison immediately, and proper treatment as prisoners of war accorded them, reprisals will be taken.

THE RAID ON PARIS.

THE following official statement was issued in Paris on January 31st:—

"Four enemy air squadrons crossed the lines north of Compiègne and reached Paris, flying at a very great altitude, and favoured by the clearness of the atmosphere. They approached Paris and its suburbs from the north and north-east, dropping in succession bombs on several suburbs. They then flew over Paris, chiefly on the right bank of the Seine, where, in a few moments, they dropped almost all their bombs, causing a fairly considerable number of casualties, especially among women and children. Two hospitals were hit and several buildings burned and damaged. The number of killed is about 20 and of the wounded about 50. Several air fights were fought north of the capital. One German aeroplane was brought down and its two occupants taken prisoners. One French aeroplane had to land, its occupants being wounded. A further report will be issued later giving the numbers of our casualties."

An official *communiqué* issued later stated:—

"It is now known that our losses as the result of the air raid last night were 36 dead, including 22 in Paris, and 14 in the suburbs, and 190 injured, including 114 in Paris and 76 in the suburbs. A large number of the victims were women and children."

Ten Years for Dropping Leaflets.

SOME little time ago it was announced by Germany that Allied aviators captured dropping leaflets over territory in German occupation, would be treated as spies and shot. It is now announced by the *Deutsche Tageszeitung* that Capt. E. L. Scholtz and Lieut. H. C. Wookey, the occupants of an aeroplane of the 11th Squadron, which was shot down on October 17th, south-west of Cambrai, were sentenced on December 1st by a German court-martial to 10 years' penal servitude for dropping enemy leaflets.

Prompt and vigorous action has been taken by the British

"A POST-WAR AEROPLANE."*

By F. W. HALLIWELL, A.M.J.I.E.*

THIS paper is an attempt to outline the probable line of development of one particular type of machine, although its more insistent points may possibly apply to the great majority.

Construction of Existing Types.

Aeroplanes of to-day may be divided into several groups, but undoubtedly the most widely used type for all purpose

The *longerons* are in most cases ash, the struts, except where excessive load occurs, being spruce. The cross-bracing is by means of high tensile wires, varying generally between 16 S.W.G. and 12 S.W.G. and provided with turnbuckles for adjusting the length.

Some firms do not consider it necessary to provide turnbuckles for the last few tail pannels, but rely on getting the wires right to length before assembly.

When the fuselage is erected it is "trued up" by means of these wires, each panel being squared up in turn so that the

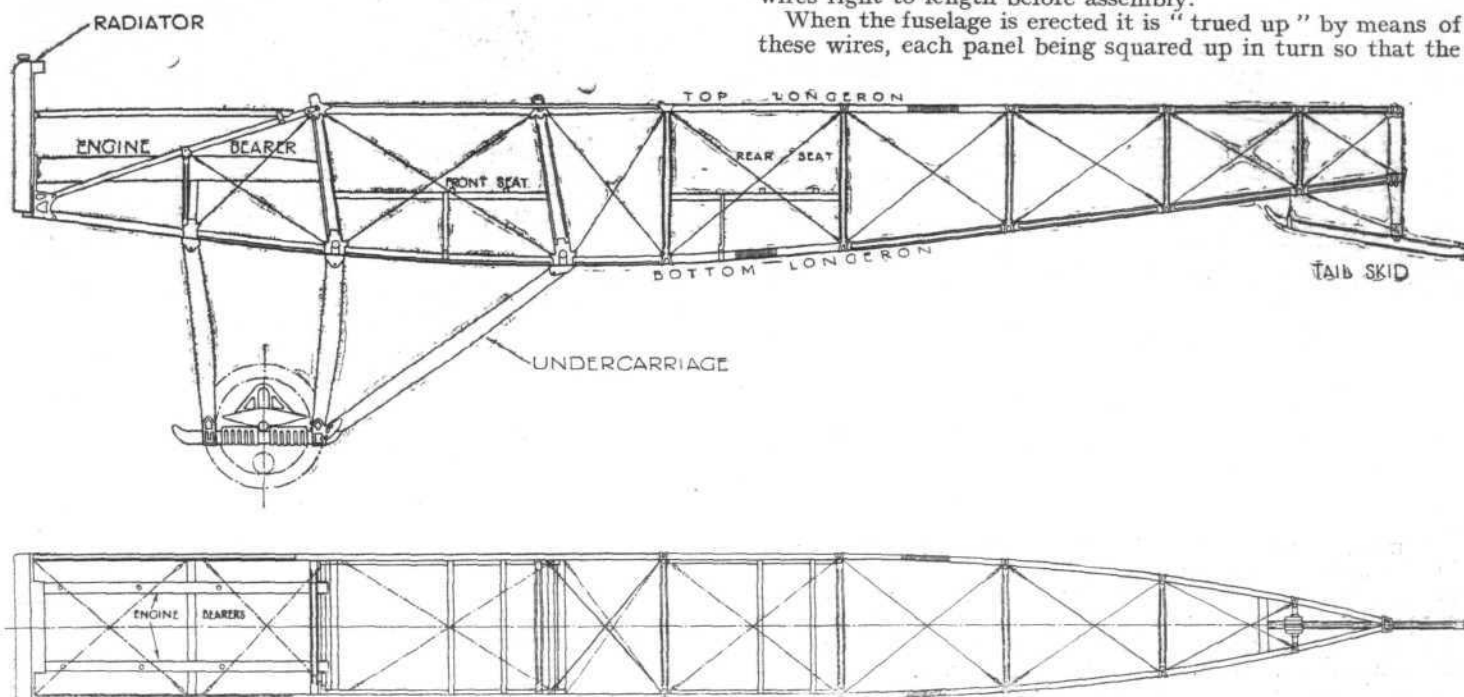


Fig. 1.

is the Tractor Fuselage machine. These vary in size according to the purpose for which they are intended, but the main principles of construction remain the same.

The aeroplane may be divided into three principal components, the fuselage including under-carriage, the wings, and the tail. To take the most important unit from a constructional point of view—first, the fuselage shown in Fig. 1 represents by far the most generally used type at present. It consists of four fore and aft members known as *longerons*, which run the entire length of the machine. These are braced

resultant final shape of the whole is correct; also when this is done, each wire should have its proportionate amount of tension before being locked. It is usual to taper the *longerons* from somewhere about the rear seat down to the tail. This necessitates different cross strut sections, and therefore clips all the way along the fuselage.

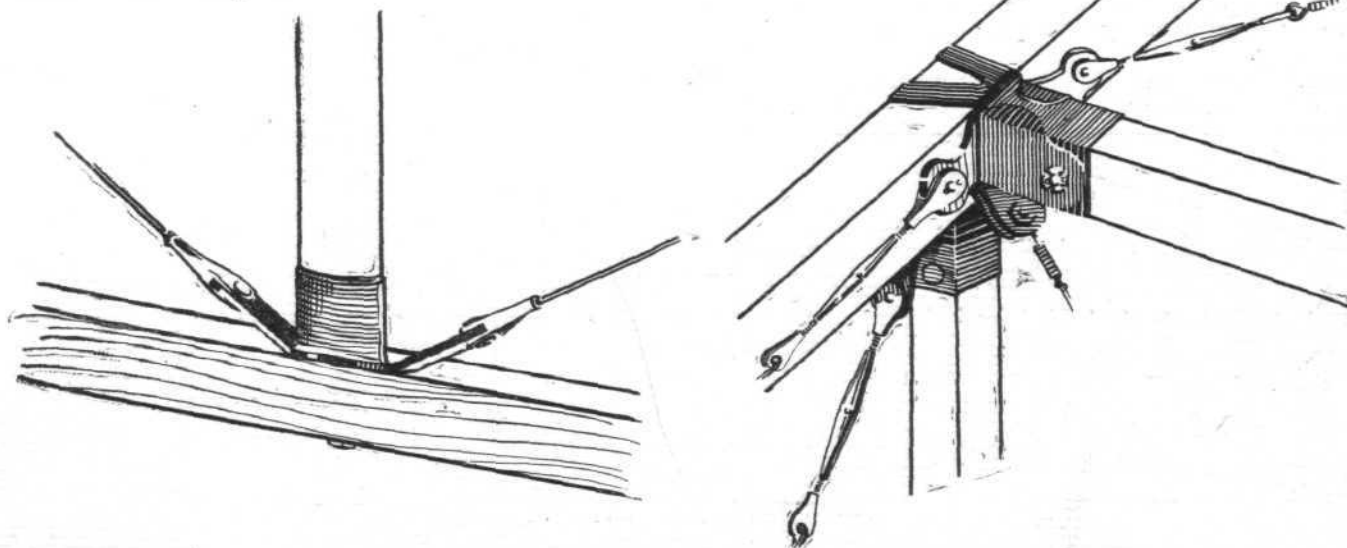


Fig. 2.

up by means of struts and ties, in such a way that the whole forms a box lattice girder, capable of taking either downward or sideloads, or withstanding torsion, about its longitudinal axis.

Examples are given in Fig. 2 of typical fuselage clip fittings used at cross sections where struts occur. The under-carriage, as shown in Fig. 1, is composed of three pairs of ash struts fitted with sockets on the fuselage, which sockets are in four cases an integral part of fittings, which fulfil the triple function of positioning the fuselage cross section struts, carrying the hinge pins for the wing spar joints, and receiving the ends of the under-carriage members.

* Paper read before the Graduate Section, Institution of Automobile Engineers, and before the Junior Institute of Engineers. At the latter the chair was taken by Wing Commander The Master of Sempill, while Lt.-Col. Mervyn O'Gorman contributed to the discussion following the lecture.

These struts are connected at the bottom by pieces of ash, which in their turn carry a tubular steel axle. Shocks are absorbed in this design by means of a number of rubber rings connecting the axle end plates and the ash connecting pieces.

braced up together by inter-plane struts and diagonal bracing wires or cables. This arrangement gives a truss girder construction suitable for taking cantilever loads, such as it is subjected to.

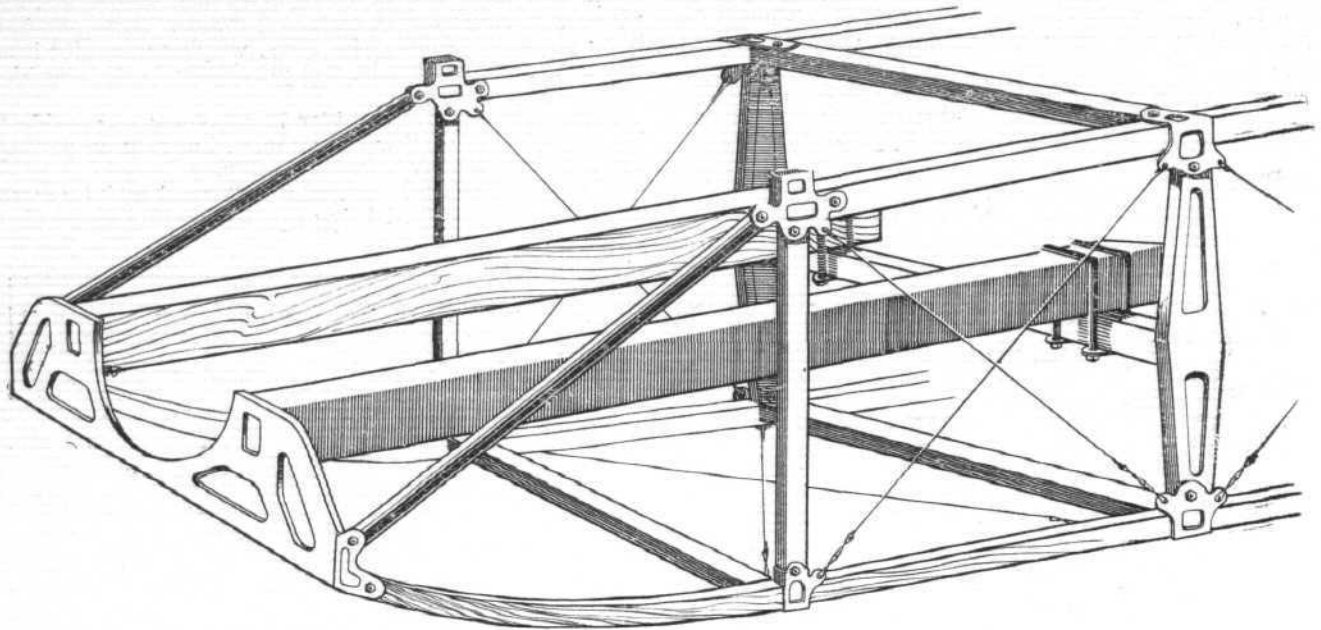


Fig. 3.

Coming now to the installation of the most important unit in the fuselage—namely, the engine—there are two distinct methods of doing this, depending upon whether the engine is a rotary or stationary engine. In the latter case the engine is mounted either upon steel tubes, as in the B.E. or upon wooden bearers, somewhat as shown in Fig. 1. Either way the engine may be bolted down by feet in a manner very similar to car practice.

Fig. 3 gives a good idea of the mounting of a water-cooled stationary engine.

If it is a rotary, however, the engine has a circular flange upon the crankcase, which is bolted direct to the engine bearer upon the fuselage end, as shown in Fig. 4, leaving the front end of the crankshaft unsupported, while the rear end is located by a member running right across the fuselage, which also resists any bending moments tending to pull the engine out of alignment.

The petrol and oil tanks are usually carried by beams running transversely across the fuselage or longitudinally from cross section to cross section, or slung in cradles made either of strip metal or wooden lathes. The cross beams shown in Fig. 1 carry the pilot and passengers' seats respectively.

The wing system, which is in most general use, is the bi-plane combination in which the upper and lower wings are

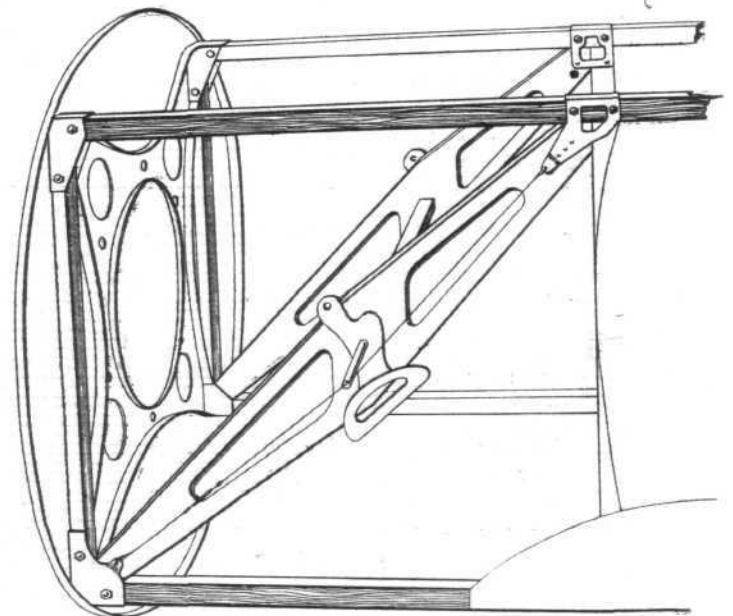


Fig. 4.

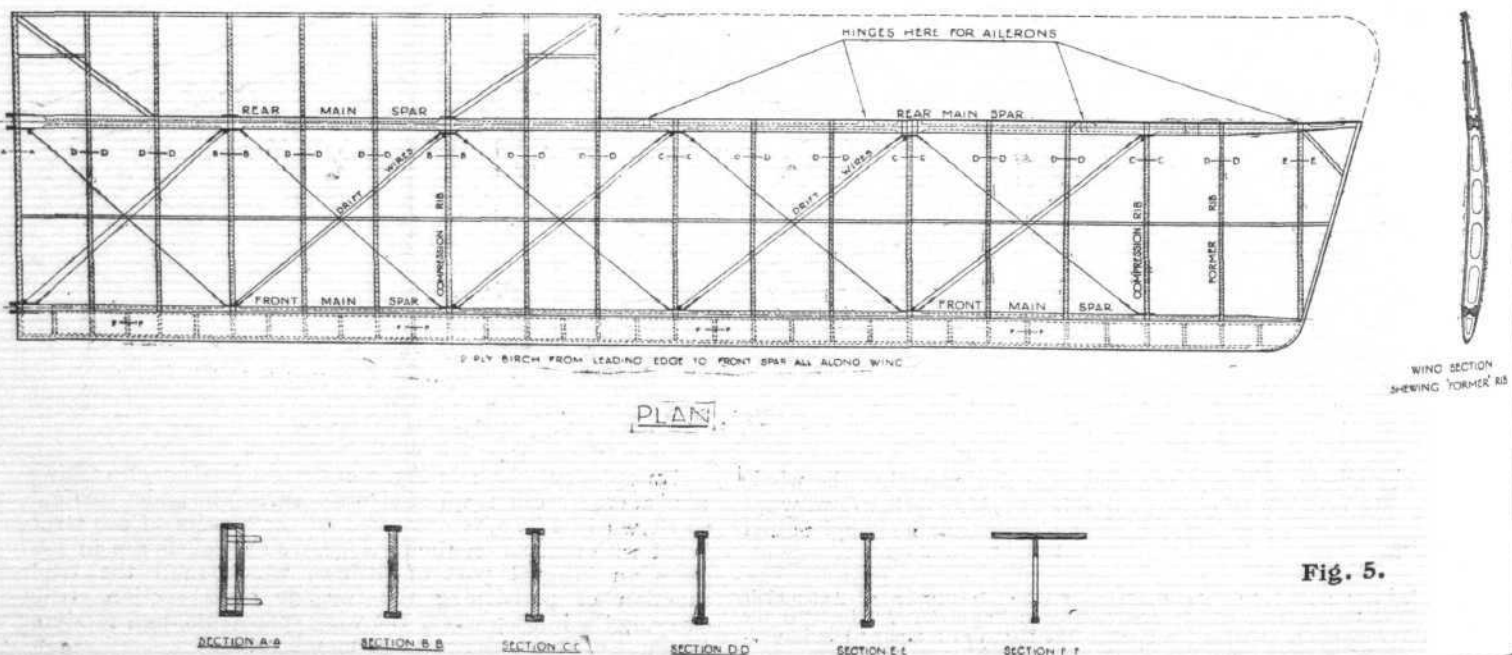


Fig. 5.

A plan of a typical wing form is shown in Fig. 5. Here it will be seen that the two main spars run the whole length of

inches are shaped ribs, which give the wing covering its correct profile. It will be noticed that one of these

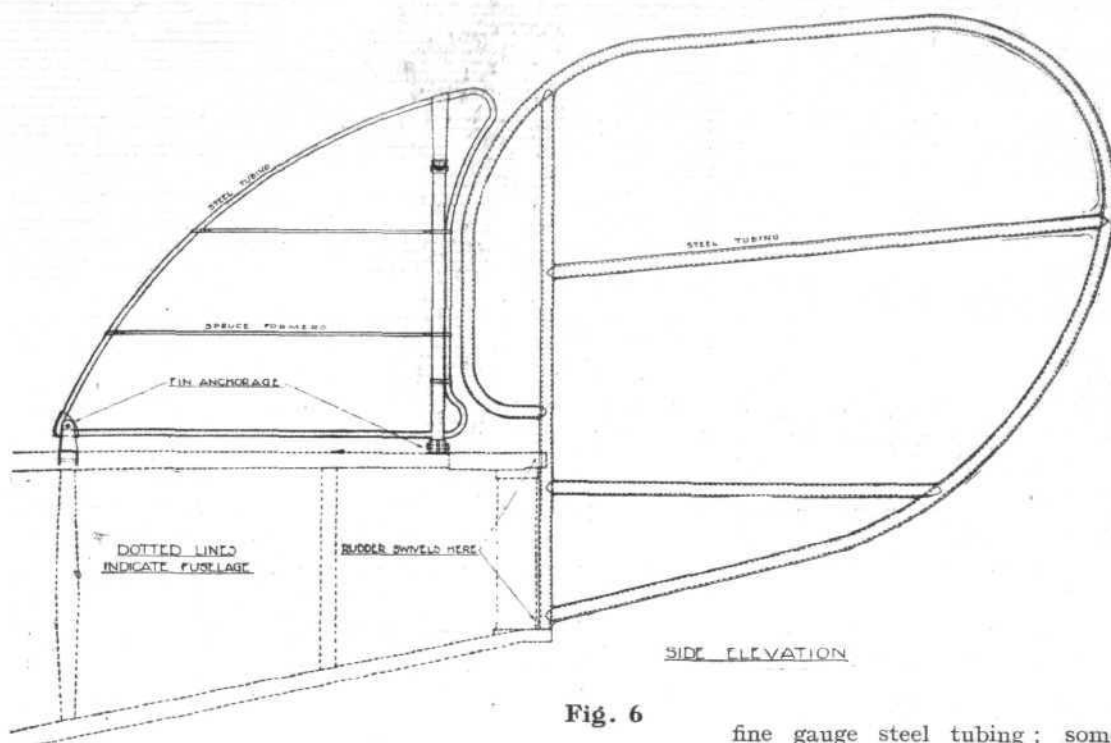


Fig. 6

the wing and are internally braced by means of compression struts and diagonal wiring against drift forces.

All along the wing at intervals of from nine to eighteen

occurs wherever the bracing wires are anchored; at these points they are made strong enough to serve as struts, and are known as "Compression Ribs," while the lighter skeleton ribs merely preserve the wing shape, and are termed "Formers." The whole length of the wing is shrouded with 2-ply or 3-ply birch from the leading edge to the front main spar, this being the portion where the lift forces are greatest.

The *aileron*s are hinged on to the rear spar where shown, and their construction is similar to the after part of the wing.

The tail surfaces, namely the tail plane and elevators, and the tail fin and rudder are generally built up of

fine gauge steel tubing; sometimes, where large, with wooden "formers" to preserve a correct shape for the entire surface.

Fig. 6. gives an idea of fin and rudder construction.

(To be concluded.)

Air Work in Italian Advance.

"In the recent advance of the Italian armies round Monte di Val Bella the most striking feature was the large part which aeroplanes played in the fighting," says Mr. G. Ward Price in a despatch to the *Times* from the Italian Headquarters. "British, French and Italian machines were in the air on this sector during the battle, and not less than 12 enemy machines which were observing or trying to bomb places where Italian troops were gathered for the assault, came crashing down on to the mountain slopes. The Italian front has, indeed, been costing the Austro-German Flying Corps dear lately. Hardly a day passes but they lose several

machines to the attacks of our aggressive Allied airmen, and this in spite of the fact that they habitually do their best to avoid an encounter."

Another Raid on Padua.

In the air raid on Padua on the morning of February 4th about 10 aeroplanes dropped some 60 bombs, scattering them in various localities, according to Reuter's correspondent. Bombs fell near the churches of Santa Giustina and the Eremitani, the cathedral, the church of San Francesco, and the Hospice of the Confraternità della Carità, containing frescoes of the school of Titian. The Albergo d'Italia was completely demolished.



"British Official."

**With Our Night-
Bombing Planes
on the Western
Front in France.**

—The observer has very often occasion to use the gun fitted to his seat, and his method is seen when firing down on the enemy.

AIRISMS

FROM THE FOUR WINDS

It seems almost incredible that the Huns should have so utterly and so continuously violated every law of humanity and decency in the World's War which they forced upon mankind and yet every now and again send forth a human ray of chivalry which calls for admiration in the individual actor concerned. Such an episode is to be found in the following letter to hand from a member of the Mesopotamia Expeditionary Force, referring to the death of General Maude:—"On the day of the funeral there was an enemy aeroplane over Baghdad, and the firing of the anti-aircraft guns formed an appropriate requiem for the dead soldier. Whether the Turks were then aware of General Maude's death is unknown, but two days later an enemy aeroplane again appeared over the city and coming unscathed through the gunfire and eluding two attacks in the air swooped down over the British Residency to drop a message of condolence.

"Of course it was not war, but it was a gallant action, and our acknowledgment of it, I understand, was conveyed in the same way. The Turks admire a good soldier, and had reason to respect General Maude."

By way of contrast take the recent shameful action by the German authorities in condemning two of our Flying officers to penal servitude for distributing literature from above, setting out some truths as exemplified in Mr. Wilson's now famous War Aims Speech. This plan was initially carried out and since persisted in by the Germans themselves, yet it is this barbarian race that now professes to be piously wrath at being dubbed "Huns." Wonder what the Huns would say, were they able to speak, at being bracketed with the modern Huns!

If there were one thing that one would have thought a red-tape hide-bound Government would do it would be to respect custom begotten of white-whiskered years. Yet in this respect the powers that be have badly broken away in connection with the National Aircraft damage insurance scheme. It is as to the customary "days of grace" hitherto allowed under Insurance policies. From a case which has recently been decided by one of the Metropolitan Police magistrates it has emerged that no latitude whatever is given under the Government's air damage scheme. All benefits and official liability ceases upon the date of expiry. Moreover, from experience, it is long since accepted that no notice of the expiry date is given, another ancient custom of insurance companies which has also gone by the board under Government policies. The main particulars of the case in point are as follows:

A college in one of the districts raided in September, 1916, was struck by a bomb and almost completely demolished. The adjoining premises—used partly as a school and partly as a residence—were rendered uninhabitable. One of the buildings was insured under the Government scheme, in accordance

with the provision that air-raid insurances have to be taken out with the company insured with against fire and for the same amount.

The policy was taken out on September 9th, 1915, and the raid took place on September 23rd, 1916; the renewal premium had not been paid. The proprietor of the college trusted to the customary "days of grace" allowed by London insurance practice.

The Government, however, refused any compensation on the ground that no "days of grace" are allowed on Government policies.

APART from this, the L.C.C. for some work in shoring-up the premises and making them safe—a proceeding which the proprietor declares was quite unnecessary—have summoned him to pay between £30 and £40 for the work, and the police magistrate has made an order against him. This is rubbing it in with a vengeance.

"SPEED" is aviation and aviation is speed, in war times at least. This is the subject, with aircraft illustrations, selected by Lieut.-Col. Mervyn O'Gorman for a lecture on February 15th at 3 o'clock to the Women's Institute. Col. O'Gorman can never help but be interesting when he takes a problem in hand, and as the lecture room is not over large early application to the secretary of the Women's Institute for a ticket of admission is essential.

PROBABLY in no section of the People's Army has initiative had greater opportunities of quickly asserting itself than in the Flying Services. Thousands of remarkable incidents will presently go to make up many a fascinating volume when these things can be recorded in detail after the war, but every now and again an individual case breaks through the shrouding veil of secrecy, and then it is that one can realise what our citizen army has meant to those who perforce have had to remain as mere citizens to carry out *their* share of the problem of beating down the barbarous enemy. In this connection it transpired last week at the National Provincial Bank meeting that Capt. G. H. Hackwill, R.F.C., who was one of the strafers of the Gotha moonlighter, was, at the outbreak of war, on the N.P. staff.

THOSE who take an interest in things actual, should note the presence of the remains of this self-same moonlighter craft at the Red Cross exhibition now in full swing at Burlington House.

ENVY assumes at times strange forms. Paris, it would appear, is jealous of London having the honour of so big a share of the Hun night raiders, if M. Gustave Hervé's view is to be accepted as voicing the opinion of his compatriots. M. Hervé's lament, following the raid of Paris last week, is:—"We had begun to be somewhat humiliated in Paris to see



ON THE BRITISH WESTERN FRONT IN FRANCE.—With our night bombing planes in France. One of our night bombing machines returning after a flight.

how they bombarded London every week and no longer deigned to send us even one Zeppelin or the smallest aeroplane."

ABOUT time surely shrapnel helmets were handed out to our noble London fire-fighters. Yet the question is still, apparently, "under consideration," since last week the Fire Brigade Committee, reporting to the London County Council, state that it is necessary to provide more effective head protection for the uniformed staff of the Fire Brigade during aircraft attacks, and that the number of such helmets required is 2,000, at a cost of 9s. each. The Committee mention that although the London Ambulance Service, the Royal Engineers, the turncocks, and other members of the staff of the Metropolitan Water Board who attend at fires have already been provided with shrapnel helmets, the Fire Brigade has still to rely upon its somewhat flimsy metal helmets. It is to be hoped that the formal recommendation appended for the provision of the helmets at a total cost of £900 will not be held up for more than a year or two, else the war may be over and "nothing done."

MASTERY in the air, is the great watchword for our forces now and in the coming great 1918 offensive. Therefore let all our efforts in production be quadrupled, rather than eased off by reason of the fatuous camouflaged strike in the realms of the Hun, which according to the *Lokalanzeiger* is still spreading in Berlin and the surrounding districts, it being specifically mentioned that the number of strikers at Johannisthal aircraft works has increased from 1,500 to 1,900 and at the Albatros works from 218 to 697. A bit too thin for any effect here, we hope.

THE latest "Picture-Daily" story is that one of the German aeroplanes forced to land in the British lines in France last week, was piloted by a 17-year-old girl, who is now our prisoner.

IN one of 200 letters from Dr. Johnson to Mrs. Thrale, offered at auction last week by Sothbys, New Bond Street, was one dated 1783, the year before Dr. Johnson died, in which he wrote:—"I boasted that I had passed the day with friends, and that no mention had been made among any of us of the air balloon, which has taken full possession, with a very good claim, of every philosophical mind and mouth. Do you not wish for the flying coach?"

"We have a daring projector, who, disdaining the help of fumes and vapours, is making better than Dædalean wings, with which he will master the balloon and its companions as an eagle masters the goose. It is very seriously true that a subscription of eight hundred pounds has been raised for the wire and workmanship of iron wings; one pair of which, and I think a tail, are now shown in the Haymarket, and they are making another pair at Birmingham."

FROM the "Absender," Flight Lieut. J. B. Daniell, R.N.A.S., publisher of "The Barb," in temporary durance vile at Trier, another copy of the prisoners' little publication is to hand. Although we promised when possible to "repeat the dose" given a few weeks ago, space unfortunately forbids, but under the heading "Barb open Letters" appears a plea of such personal possibilities that we give this editorial item without comment.

"TO THE LADIES WHO SEND OUR PARCELS."

"Dear Ladies: Permit us to express an iota of our great debt of gratitude to you for the splendid work on behalf of the officer prisoners of war. The stream of our parcels sent forward through your organisations bring us continual cheer and replenishment. Will you permit us to bring to your attention, in this connection, certain facts which may interest you in the administration of your service. Regarding the biscuits, which arrive from various sources, and which we have noted, and indeed know from our own experiences, are not popular. This is to overcome the bread difficulty. The Berne bread, however, arrives in fairly good condition, when the frontiers are open and the service is not interrupted by railroad congestion. The French Government send out the most popular substitute for bread which we have seen in these camps. It is known as the "French Biscuit" and is very hard and dry; about three inches long, two and a quarter in width and about one and a quarter in thickness. Before eating, a hole must be bored in the top and the biscuit held under a faucet and soaked with water. It then stands for about two hours, during which period it swells considerably. Warmed up after this the French biscuit is soft and very good. We are sure that the manner of manufacture could be ascertained from the French authorities, and that this would be a very welcome substitute for all the plain biscuits sent out

of England to us. This does not apply to sweet biscuits, which are always much appreciated.

Very sincerely
"THE BARB."

THE study of the behaviour of animals under stress of war conditions at the front and in connection with air-raids, and the possibility of using them as sentinels has had some interesting results under varying circumstances. Apparently a considerable amount of uncertainty remains and the nervous systems of animals appear to be as erratic sometimes as those of humans—just according to the breed. "W" in the *Daily Mail* the other day set forth a fresh collection of experiences and deductions, from which it emerges that in the case of animals, familiarity with air-raid upsets, very quickly breeds utter contempt. "Experience," writes "W," "at our air stations shows that birds are on the whole the best sentries, till they get accustomed to firing. Parrots early in the war were tried at the Eiffel Tower with the result that at first they gave warning fully twenty minutes before the aeroplane or airship could be made out by the eye, or heard by the human ear. These birds, however, appear to have grown bored or indifferent, as they could not be kept indefinitely at the work. Pheasants have been found almost invariably to signal the approach of aircraft at night by their chattering and screaming. When the pheasant begins to talk then the airman gets ready to fly, and the anti-aircraft gunner turns out. The screaming of pheasants often precedes by fifteen minutes to half an hour the approach of a Zeppelin or aeroplane.

A good example of the pheasant's acute hearing was given during the first Zeppelin raid of January, 1915, when at Thetford and Bury St. Edmunds, 35 to 40 miles from the area over which the Zeppelins flew, the pheasants shrieked themselves hoarse. Reports from almost the whole North of England make it certain in the same way that they heard the firing in the North Sea, which accompanied the battle of the Dogger Bank that same January. With habit they lose this peculiar sensitiveness. Nearly all observers in France, have noticed that birds, after their first terror, gradually grow accustomed to heavy firing, and, indeed, treat all the rage of man with utter unconcern. Hares, partridges and pheasants could be seen—perhaps can still be seen—near the advanced trenches, competing with the rats for any provender that may be obtainable."



Reproduced, by permission, from "Canada in Khaki," No. 2.

When Steve's pard joined up.

QUOTING from the late Lieut. G. W. Devenish's book—"A Subaltern's Share in the War," "W" emphasises the following philosophic unconcern of the homely "Coo." "Cows usually appear quite indifferent and often you see them wandering about in between our trenches and the enemy's quite unconcerned. . . . One would persist in getting in front of my gun (an 18-pounder) so we had to drive it off by chucking empty cartridge cases and clods of earth at it. One dog there was in abject terror, and tried to burrow its way into the ground in a barn."

BRAZIL'S contribution to fighting units against the Huns should be anything but negligible, especially from the moral point of view. One contingent will assuredly be welcome in 1918, that of the Brazilian aviators. They are exceedingly keen observers, have almost phenomenal initiative, and are likely to make big efforts to put up a record score for numbers of enemy machines accounted for.

Apocryphal the widely published interview with Sir Eric Geddes regarding the "holding" of the pirates during the past 12 months unrestricted U-boat campaign of the Huns, a very live story is published in the *Liverpool Journal of Commerce* from Mr. J. S. Margerison which graphically depicts one method by which the submarine menace is being held. A seaplane spots a U-boat lying on the sea-bed, and sends out a wireless signal. Ten miles away, so the narrative runs, a long, lean destroyer and four squat trawlers detached themselves from a pack of hounds working a covert, and hastened to the kill. Meanwhile the seaplane circled round, but when the surface ships arrived her instructions, delivered by wireless, were curt and precise. Acting upon them, the trawlers stationed themselves at the four corners of a wet quadrangle, while the destroyer kept her guns ready to talk to Fritz should he appear above the surface. The trawlers at the corners of the wet quadrangle got out their sweeps—long wire hawsers of an incredible stoutness, with a heavy "kite" in the centre to keep their bights down on the seabed—and commenced to steam towards each other. As their pairs of vessels met, their wires simultaneously engaged themselves under the U-boat's bow and stern, and commenced to work their sinuous way between her hull and the sea bottom. It was then that a strange thing happened. Two round, black objects seemed to detach themselves from her hull and float surfacewards, to hover a second, and then to commence bobbing down the tide—bobbing down towards a lane much frequented by those ships which brought food, munitions of war, and hundreds of other things to England's shore.

"MINELAYER, eh?" called the seaplane's observer.—"That's it, lad," came the telephoned answer "But her eggs can wait for a minute." The trawlers, continues Mr. Margerison, still steaming towards each other, now crossed, and their dependent cables held the U-boat in a kind of wire cat's cradle. She seemed suddenly to wake to her danger, for, with a bound, she tried to disentangle herself from the meshes which held her. But it was no use; the trawlers had been too long at the game to leave any loop-holes, and the submarine was doomed. "Got him," signalled the seaplane. "Thanks," replied the destroyer, "We'll give him five minutes to come up and breathe—but no longer." The time passed, and still Fritz made no further move. At a flagged signal from the destroyer the port foremost trawler and the starboard after one clipped a small red tin of high explosive to the bar-taut wire, and allowed it to slide downwards till it touched the U-boat's hull. It was the seaplane's turn to wave a flag, and immediately there followed the crashing of two fists upon two firing keys, the uprising of two grey mounds of water, and a rumbling, muffled explosion. The wires snapped in the middle, and the trawlers' crews flew to coil them down. The seaplane circled twice above the patch of rising oil, ascertained that Fritz had been destroyed and notified the destroyer of the fact. Then, with her observer slipping a drum of cartridges into his machine gun, she sped off after those objects bobbing down tide. A burst of rapid firing, and the first of the devil's eggs, its buoyancy chamber punctured, sank with a gurgle; the second gave a better show, for it exploded grandly—and harmlessly—as the bullets reached him.

FROM the "Court Circular" February 4th:—"The Prince Albert, attended by Staff Surgeon Louis Greig, R.N., left Buckingham Palace for the Royal Naval Air Station, Cranwell."

IN a short airism last week reference was made to the "turn" of a pilot over the West End, as described by a daily newspaper. Reference, in quite another strain, to the same incident also received prominence in a contemporary. In

this connection we have received under date February 4th, the following communication from "an interested spectator" asking for publication, which request bare justice demands should be honoured. The letter is as follows:

"I beg that you will grant me the hospitality of your columns to comment on an attack made on some stunt pilot. in the last issue of one of your contemporaries.

"This paragraph was headed 'A Disgraceful Exhibition' and has caused intense amusement to hundreds on account of the gross ignorance displayed by the writer.

"Putting aside the question of good or bad taste and of the reason for the flight concerned, let us consider the article as an apparently reasoned comment on Aeroplanes, Aero Engines and Flying. The machine was described as a 'somewhat antiquated single seater biplane'; its type happens to be known throughout the air services as 'The Wonder of the War,' and though to a certain extent superseded, it is still a Service machine, still very popular amongst pilots who fly, and still known as a 'Sopwith Pup.'

"In his comments as to 'what made the performance little less than criminal,' namely the handling of the engine, the writer absolutely 'touches mud,' and any doubts as to his ignorance of aviation in general, and Aero Engines in particular, are finally confirmed. As for its mis-firing, there isn't a pilot in the world who can throttle down a 100 h.p. Monosoupape engine without its mis-firing. When the writer states that the engine 'stopped dead' for several seconds on more than one occasion, he shows that his fears for his own skin had been allowed to stultify his vision and reason.

"This child,' for one, would never let his engine 'stop dead' when at 400 ft. over St. James's Church, Piccadilly. Having sympathy with his engine, he knows better than to loop the loop or nose dive with his engine full on.

"After such a display of ignorance on matters aeronautical, naturally the statement 'the flying was none of the best' loses its weight and is reduced to the standard of the social gossip so freely proffered in the cheaper illustrated press. I may say that it was not the opinion of scores of excellent pilots who saw it nor of the well-informed writer of the paragraph in your last issue.

"The display did not cause 'anyone in the vicinity who understands flying' (and there are, a few, aren't there, or perhaps the writer doesn't know) the gravest alarm, only intelligent interest because they are capital sportsmen and saw that the pilot could fly.

"The pilot 'could well be spared,' could he?"

THE Eccentric Club Matinee at the Empire Theatre next Monday, the 11th February, in aid of the Harwich Minesweepers' Dependents' Fund, promises to be quite unique in character. The Rear Admiral commanding at Harwich has consented to some 20 minesweepers (who be it remembered work in conjunction with seaplanes) appearing in their sea-going togs in a set scene which has been specially prepared for the occasion. In additions, in the phraseology of the Hon. Secretary of the Club, a galaxy of stars are lending their aid in connection with the programme which, in itself, will be a valuable souvenir, as it will contain several drawings and sketches by some of the best known artists of the day, including cover design by the inimitable Bruce Bairnsfather. Madame Ada Crossley will be there, and Jose Collins, and Shirley Kellogg and Elsie Southgate, Violet Loraine and George Robey, Phyllis Monkman and Jack Buchanan, Mabel Sealby and Lauri de Frece, Teddie Gerard and Walter Williams, Beattie and Babs, Harry Dearth, George Graves, Lyn Harding, Neil Kenyon, Nelson Keys, R. G. Knowles, Harry Tate, Bransby Williams, and other favourites.

Through the generosity of Mr. Sheriff Hepburn some two hundred wounded soldiers will occupy the amphitheatre. The Lord Mayor of London has promised to be present.

The Matinee is under the patronage of Their Majesties the King and Queen, and all the Lords of the Admiralty. Already over £1,600 has been secured. Still there are seats for sale—Stalls £2 2s. Box Circle, £1 1s., and a few boxes. £2,000 should be certain; £2,500 is aimed at for this supreme charity—the widows and orphans of the men who are preventing our living in the horrors of a "beleagured city."

TEN YEARS AGO.

Excerpts from the "AUTO." ("FLIGHT's" precursor and sister journal) of February, 1908. "FLIGHT" was founded at the latter end of 1908.

THE ZEPPELIN AIRSHIP.

According to the *Berliner Neueste Nachrichten*, the German Government has decided to purchase Zeppelin's airship for 2,150,000 marks, provided that it accomplishes a 24-hour flight at a greater height than has hitherto been attained.

and at such a speed as will enable it to cover about 700 kiloms., in the time allotted. A demonstration must also be made proving that the airship is capable of landing safely on *terra firma* at a given spot.

"ZEPPELIN IV."

In the course of a lecture delivered in Berlin on Sunday of last week, Count Zeppelin gave some particulars of his proposed new airship, "Zeppelin IV." It would be capable, he said,

of remaining in the air for four consecutive days and nights, during which period it would be able to travel 2,500 miles with 12 passengers. Weather permitting, the airship would travel from Berlin to Constantinople in 30 hours, and the Count actually calculated that a passenger service might be carried on between Berlin and Copenhagen at a profit of ten per cent. on the outlay required, these figures being based on an average load of 25 passengers per trip at 50 shillings per head.

DETAILS OF BRITISH AIR RAIDS.

THE following details regarding the air raids into Germany, reported in the General Headquarters *communiqué* of January 25th, were issued by the War Office on February 1st:—

"On the evening of January 24th a squadron of night-flying bombing planes left their aerodrome to bomb Trèves barracks and railway station and Thionville steel works. Eight hundred and eighty-nine pounds of bombs were dropped on Trèves, very good bursts being observed in the northern portion and in the centre of the town, and a large fire, which was observed later by other pilots, was caused in the north-eastern corner of the town. Machine-gun fire was directed at searchlights, trains, and buildings. One thousand one hundred and twenty pounds of bombs were dropped on Thionville steel works. All the bombs burst and large explosions were observed. Here, also, rounds from machine-guns were fired at searchlights, trains, and moving lights in the roads. Two hundred and eighty pounds of bombs were dropped on the railway at Oberbiling, six miles south-south-west of Trèves. Machine-gun fire was directed into villages in the Moselle Valley. Two hundred and eighty pounds of bombs were dropped on the railway station and junction at Saarburg,

10 miles south of Trèves, causing large explosions in the town, and searchlights, trains and lights in the town were fired at with machine-guns.

"On the same evening a few bombing aeroplanes of a naval squadron attacked Mannheim and Thionville. One thousand three hundred and forty-four pounds of bombs were dropped on the Badische-Anilin-und-Soda-Fabrik, the docks and the town of Mannheim. As a result of the bomb bursts in the factory, dense clouds of smoke were seen to rise after the explosion. One thousand three hundred and forty-four pounds of bombs were dropped on Thionville town, railway junction, and factories. Altogether 5,257 lb. of bombs were dropped at an average height of 1,500 ft., while many rounds from machine-guns were fired with good effect, particularly on railway traffic in Trèves.

"The evening started with bright clear moonlight, with a slight ground mist, but as time went on heavy banks of clouds came up from the north and the mist became very thick, making flying very difficult. One pilot made four attempts before he reached and bombed his objective. The anti-aircraft fire was heavy, but inaccurate."

Fatal Accidents.

THREE officers lost their lives in flying accidents near an Eastern Counties town last week. Their names were 2nd Lieut. A. McPherson, R.F.C., 2nd Lieut. G. Tufts, R.F.C., and 2nd Lieut. E. Barnes, R.F.C.

2nd Lieut. J. S. Young was killed while flying in Scotland on February 2nd.

Lieut. J. M. Black, R.F.C., has died in the Cameron Hospital, West Hartlepool, from injuries received in a flying accident. His companion, 2nd Lieut. Nichol, R.F.C., is in the same hospital, suffering from a fractured thigh.

Fatal Aerodrome Fire.

A FIRE occurred at a large building of a Norfolk aerodrome just before 3 a.m. on Feb. 4th, and as a result an R.F.C. mechanic, H. W. Langdown, was burned to death, while five others—H. A. Elder, A. E. Cox, C. Leuke, A. Crowther, and W. Taylor—were taken to hospital suffering from severe burns, and one has since died.

It appears that an explosion occurred, and in a moment the place was in flames. The fire spread rapidly to a smaller building. Firemen were soon on the scene, but several hours elapsed before the outbreak was subdued.

Gifts from the Dominions.

IN a Treasury minute, issued on Feb. 5th, relating to gifts made to the Government towards the cost of the war, the following are noted:—

Basutoland £50,026 10s. 11d. for purchase of aeroplanes.

Mauritius 1,000,000 rupees (£66,666) utilised in aeroplanes.

Zanzibar £50,000 used for purchase of aeroplanes.

The thanks of the King have been conveyed to the donors, but the Treasury places once more upon record its appreciation of those spontaneous and generous contributions.

The Duc de Chevreuse Killed.

It is announced by the *Temps* that the Duc de Chevreuse has been killed as the result of a flying accident while training as an aviator.

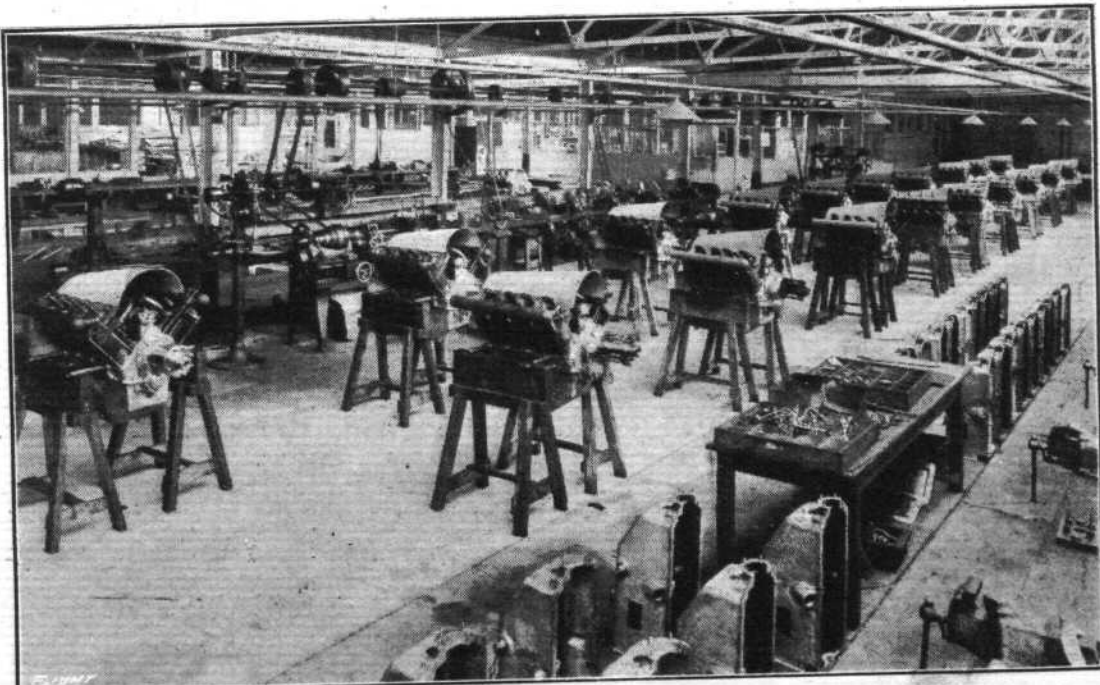
French Pilot Escapes from Germany.

Le Matin learns that Flight-Sergeant Paoli, having succeeded in escaping from a German prisoners' camp, has arrived at the French frontier.

A Tall Story.

THE *Handelsblad* is responsible for a yarn that on January 30th, two German airmen in uniform flew over the Dutch frontier near Oldenzaal, landed near Ochtrup, and after destroying their machine, deserted on bicycles.

One of the machine shops of the Swift Motor Car Co. engaged on the production of engines.





Some Reflections on Faith.

TIME flies, and all things change at a proportionate or disproportionate rate, according to circumstances.

Not all changes, however, can be laid to the charge of the old gentleman with the scythe and the hour-glass—the passing of time is but contemporary, though contributory.

As I pass along the road of life, marking the mile-stones that appear, are passed, and left behind, I find myself becoming more observant of the changes taking place around me, and more and more inclined to observe. It was Emerson who said that “if the stars only came out once in a thousand years, how men would believe and adore and preserve for many generations the remembrance of the city of God.” It appears that the more often we have things brought before our eyes, the less likely are we to notice them.

Emerson was a man of faith, a man before whom the lamp of hope was ever shining, a man whose nature was all charity. No doubt had Emerson seen the stars but once in his lifetime it would have been all sufficient, yet we who see them every night of our lives are losing faith.

We are losing faith in ourselves and faith in those around us, and the remarkable thing is that we appear to be accepting the new conditions unconditionally. It is almost as unbelievable as it is unnoticed, this new state of affairs, for unnoticed it must be, generally, or we, as a nation, could not in normal condition accept it. But are we normal?

Quietly, but insiduously, a power is at work upon our constitution that is producing a state of semi-coma among us, and we fail to notice things that in normal times would stand revealed in all their nakedness. If you want to mark one evidence of the change, evidence that is before you every day even as the stars come out every night, and therefore pass unnoticed, look at your friends, especially those of middle age. They are growing old at extreme rate. You will see it if you look. Men who were quite young only a year ago have become grey. Men who were grey a year ago are now old, old men. It is war worry, or, in other words, loss of faith, for there can be no worry about anything until faith has been destroyed.

Sometimes I find it difficult to believe that the world will ever be good again, and there I know that I am losing faith. Hope, the hope that this wicked war will soon come to an end to the advantage of three-fourths of the world and the glory of the indomitable allies seems to recede farther and farther into the background of my thoughts. I do not give in charity, as I used to do, feeling that every man's hand is already in my pocket. I am becoming war-weary with a weariness born of the losing of faith, faith in those men of my own age, and above, to manage things for us as they should be managed for our welfare.

I do not charge these old men, these leaders of our

government and heads of departments, with dishonesty of purpose, but rather with a war-weariness inseparable from the breaking down of energy in men above a certain age during this long and tiring journey. For it is a long journey, my friends, and an arduous one, and none but the fittest may hope to stand the strain and arrive with unimpaired faculties.

Everything is to the young, and the greater part of our youth are in the fighting forces, wherefore are such glorious things enacted by them day by day. Tommy and Jack, God bless them, are doing everything that can be done, and more than anybody could ever have expected or thought possible, but while they are winning the war at the front, the old men are losing it in London.

We talk of the men who are so cheerfully giving their lives for their country, and we talk nonsense. No man, short of one insane, will cheerfully, deliberately, and of his own free will, die, but in their thousands they will risk their life and the sacrifice of it in their duty as the guardians of their country and folk. Wherefore, after more than three years of sacrificing, we are come, the older of us, to hold life too cheaply, to become accustomed to its loss and to look only to the source from which men may be obtained to fill in the gaps.

I speak from personal experience when I say that advancing age in a man encourages a desire to ease down when the speed is fastest and to cry to the younger to push on. The will to win through is the same, but the older are more easily inclined to win at a slower rate, at a speed that does not puff them quite so much, more inclined to pay a bigger price for a more comfortable journey, and when that price is men's lives, none but the old could entertain the idea.

There are things of which I must not write, or I fall foul of Dora, in itself used in very many instances to cover the failings of the aged, but if we awake and look around us as I have bid you look upon the faces of your friends, these things will become quite as evident as that those friends are ageing faster than time demands.

Youth is impetuous, and youth will make mistakes that an older man might avoid, but the older also make mistakes, and one of them is that the people of this country will, and are prepared to, stand the strain indefinitely. We are a long-suffering race and are noted to pay and grumble, but that is only so long as faith remains to us, and that faith is becoming seriously shaken. There is an ugly feeling abroad. Please God nothing shall come of it. We are not constituted as our unfortunate allies in Russia, but, in my opinion, it is high time these older men who have the ruling of us in their hands should realise that things must be done more promptly and to better effect, either by themselves or by younger men.



The British Air Services

"PER ARDUA AD ASTRA"



UNDER this heading are published each week the official announcements of appointments and promotions affecting the Royal Naval Air Service and the Royal Flying Corps (Military Wing) and Central Flying School. These notices are not duplicated. By way of instance, when an appointment to the Royal Naval Air Service is announced by the Admiralty it is published forthwith, but subsequently, when it appears in the LONDON GAZETTE, it is not repeated in this column.

Royal Naval Air Service.

Admiralty, January 29th.

Probationary Flight Officer (Temporary).—R. Robinson, promoted to Flight Sub-Lieut., seniority Jan. 2nd.

The following have been entered as Proby. Flight Officers (temp.).—L. Bell, O. L. Malcolm, D. B. Foss, E. W. Henry, H. J. Armstrong, R. H. Foss, W. H. Davis, F. H. S. David, W. Meff, W. R. Burdett, and H. C. Austin.

Temp. commissions as Lieut. (R.N.V.R.) granted to H. Cox and H. S. Watson, seniority respectively Dec. 30th, 1917, and Jan. 24th.

Admiralty, January 30th.

Mr. C. A. Hurst granted temp. commission as Sub-Lieut. (R.N.V.R.), seniority Jan. 20th.

Admiralty, January 31st.

Messrs. W. E. Watson and W. J. Ley, promoted to Wt. Officers (II), permanent and temp. respectively, seniority Jan. 27th.

Messrs. L. C. Seager, and R. H. Bailey entered as Proby. Flight Officers (temp.), seniority Feb. 4th.

Mr. F. T. Pamment entered as Proby. Observer Officer (temp.), seniority Jan. 20th.

Warrant Officer (II).—B. Turner, granted temp. commission as Lieut. (R.N.V.R.), seniority Jan. 27th.

Mr. C. M. Attlee granted temp. commission as Sub-Lieut. (R.N.V.R.), seniority Jan. 30th.

Admiralty, February 1st.

Mr. T. P. Jenkins granted temporary commission as Lieut. (R.N.V.R.), seniority Feb. 4th.

Admiralty, February 2nd.

The following have been entered as Proby. Flight Officers, with original seniority:—J. R. Heming, H. Stephenson, J. Garrety, A. C. E. Smith, S. E. Hancock, S. W. Briggs, G. H. S. McKenzie, A. H. Cooling, E. E. Middleton, C. P. Miller, G. D. Scott, C. T. Sharpe, J. Shaw, R. G. Stephens, R. K. Stinson, G. L. Stroud, W. H. Temple, R. E. Thompson, R. M. Walkley, N. H. Wallace, A. G. White, N. J. Loughlin, J. I. Adams, H. F. Arthur, W. S. G. Barker, J. E. Boudreau, D. P. Brennan, E. R. Bradley, F. A. Cash, C. V. Clarke, G. W. Cochrane, J. B. Corstorphine, R. F. J. Dixon, G. R. T. Donaldson, A. V. Davis, R. W. Frost, E. G. Gallagher, A. H. Garland, R. A. Gunther, R. W. Heine, J. E. Jackson, D. B. Johnston, H. D. Lackey, T. R. Lawrence, A. E. Leary, D. B. McColl, A. D. McPherson, and G. B. McSweeney.

Mr. A. Hirschberg, entered as Proby. Observer Officer (Temp.), seniority Feb. 4th.

Admiralty, February 4th.

Messrs. A. M. Wharton and J. K. Lond, entered as Proby. Flight Officers (Temp.), seniority Feb. 11th.

Royal Flying Corps (Military Wing).

London Gazette Supplement, January 29th.

The following appointments are made:—
Squadron Commanders.—From Flight Comdrs., and to be Temp. Majors whilst so employed:—Lieut. (Temp. Capt.) A. Gray, M.C., Arg. and South'd. Highrs. (T.F.); Dec. 28th, 1917. Temp. Capt. H. V. Stammers, Gen. List; Jan. 15th.

Flight Commanders.—From Flying Officers, and to be Temp. Capt. whilst so employed:—Temp. 2nd Lieut. F. G. Quigley, Gen. List; Jan. 6th. Lieut. A. G. Whitehead, W. York. R. (T.F.); Jan. 10th. Lieut. P. M. L. Edmunds, Lrs.; Jan. 11th.

Flying Officers.—Temp. 2nd Lieut. H. H. Riekie, Gen. List, from a Flying Officer (Ob.); Nov. 30th, 1917, seniority from Nov. 28th, 1916. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—W. H. Fair; Nov. 3rd, 1917. E. J. Salter, G. A. Welsh; Nov. 20th, 1917. J. S. Common; Dec. 5th, 1917. J. G. Murray; Dec. 26th, 1917. A. W. Donald, W. K. Macfarlane; Dec. 27th, 1917. G. W. K. Smith; Dec. 29th, 1917. H. W. L. Baartman, J. H. Bryer, F. Lynn, J. L. Jewkes; Dec. 31st, 1917. W. J. McSweeney; Jan. 2nd.

Assistant Instructor in Gunnery (graded as an Equipment Officer, 3rd Class).—Temp. 2nd Lieut. L. W. Walsh, Gen. List, from a Flying Officer; Jan. 7th.

Balloon Commander (graded as a Balloon Officer).—Capt. F. L. Von Stieglitz, Conn. Rang., from a Balloon Officer; Dec. 10th, 1917.

Equipment Officers, 1st Class.—2nd Lieut. (Temp. Lieut.) A. S. F. Morris, S.R., from the 2nd Cl. and to be Temp. Capt. while so employed; Jan. 13th, 3rd Cl.—2nd Lieut. P. E. Scrivener, S.R., from a Flying Officer; Sept. 20th, 1917. Temp. Lieut. N. W. Watson, attd. E. York. R., and to be transfd. to R.F.C. Gen. List; Temp. Lieut. J. R. Jones, R. Welsh Fus., and to be transfd. to R.F.C. Gen. List; Lieut. E. N. Paterson, R. Scots. (T.F.), and to be sec'd.; 2nd Lieut. H. S. G. Jamieson, E. Surr. R., S.R., and to be sec'd.; Temp. 2nd Lieut. A. Garrity, R. Fus., and to be transfd. to R.F.C. Gen. List; Dec. 29th, 1917. 2nd Lieut. R. C. Wallace, Lond. R. (T.F.), and to be sec'd.; Jan. 1st. Lieut. W. R. Browne, Wilts. R., S.R., and to be sec'd.; Jan. 4th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—W. H. Savery; Oct. 19th, 1917. P. Haselock; Dec. 15th, 1917. C. H. Clarke, R. Fell, J. A. F. Henderson, A. Rowland, T. H. Sills, E. C. Owens, A. B. West, T. H. Maltby, C. B. Pensotti, J. J. Speer, W. H. Preston, R. J. D. Killick, R. Locke, W. C. Rogers, A. Wilkins; Dec. 29th, 1917. C. P. E. Cheffins; Jan. 1st. P. M. Maury; Jan. 4th.

Schools of Instruction.—School of Technical Training.

Park Commander.—Temp. Capt. C. G. Docwra, Lab. Corps, to be transfd. to R.F.C. Gen. List, and to be Temp. Major while so employed; Nov. 5th, 1917.

General List.—Temp. 2nd Lieut. J. McDougall, to be Temp. Lieut.; July 1st, 1917. Temp. 2nd Lieuts. relinquish their commissions on account of ill-health contracted on active service, and are granted the hon. rank of 2nd Lieut.:—H. Cresswell, A. W. Harrison; Jan. 30th. Temp. 2nd Lieut. J. C. Watt resigns his commission to resume his medical studies; Jan. 30th. The Christian names of Sydney Ernest Taylor are as now described, and not as in the Gazette of June 20th, 1917. Cds. to be Temp. 2nd Lieuts. (on prob.):—J. Baillie, P. F. Bovingdon, K. McC. Dolbey, A. Longson, A. F. G. Ovenden, C. M. Sherlock; Jan. 19th. H. F. Robertson to be Temp. 2nd Lieut. (on prob.); Jan. 25th.

Supplementary to Regular Corps.—2nd Lieut. E. G. A. Leffere to be Lieut.; Oct. 24th, 1917. 2nd Lieut. R. A. Ayrton resigns his commission on appointment to Australian Imperial Force; Jan. 30th.

London Gazette Supplement, January 30th.

The following appointments are made:—
Flight Commanders.—Lieut. (Temp. Capt.) E. G. Landen, S.R., from a special appointment (graded as an Equipment Officer, 1st Cl.), and to retain his temp.

rank whilst so employed; Jan. 11th, seniority Oct. 1st, 1916. Temp. 2nd Lieut. R. A. George, Gen. List, from a Flying Officer, and to be Temp. Capt. whilst so employed; Jan. 14th.

Flying Officers.—Temp. 2nd Lieuts. (on prob.) Gen. List, and to be confirmed in their rank:—D. R. Eccles (since decd.); Sept. 22nd, 1917. H. A. Armstrong; Nov. 12th, 1917. C. A. Cryslar, V. R. Pauline; Nov. 24th, 1917. G. Richardson; Dec. 14th, 1917. C. G. Joyce; Dec. 27th, 1917. C. E. Wharton; Dec. 28th, 1917. A. E. King, J. H. Johnson; Dec. 31st, 1917. L. J. Minter; Jan. 2nd. J. G. Beck, J. E. Wood, P. H. Oldridge; Jan. 3rd. J. D. Edge, D. V. Gillespie, L. M. Nixon; Jan. 4th. C. J. Mason; Jan. 5th. A. McConnell-Wood; Jan. 6th.

Balloon Company Commanders.—Graded as a Squadron Commander:—Lieut. (Temp. Capt.) H. P. L. Hignam, R.E. (T.F.), from a Balloon Co. Comdr. (graded as a Flight Comdr.), and to be Temp. Major whilst so employed; Dec. 11th, 1917. Graded as a Flight Comdr.:—Temp. Lieut. F. B. Stevens, Gen. List, from a Balloon Comdr. (graded as Balloon Officer), and to be Temp. Capt. whilst so employed; Dec. 11th, 1917.

Equipment Officers, 3rd Class.—Temp. Lieut. H. M. Solomon, attached Bedfd. R., and to be transfd. to R.F.C., Gen. List; Temp. 2nd Lieut. (acting Lieut.) N. E. Corbishley, Training Reserve, relinquishes his acting rank, and is transfd. to R.F.C., Gen. List; Lieut. M. R. Preece, Middx. R., S.R., and to be sec'd.; Temp. Lieut. L. H. White, Middx. R., and to be transfd. to R.F.C., Gen. List; Lieut. F. W. Wright, Lond. R. (T.F.), and to be sec'd.; 2nd Lieut. J. R. Gibson, Lond. R., (T.F.) and to be sec'd.; Temp. 2nd Lieut. W. A. Allan, R. Fus., and to be transfd. to R.F.C., Gen. List; Temp. 2nd Lieut. J. F. J. Perry, Lab. Corps, and to be transfd. to R.F.C., Gen. List; Dec. 29th, 1917.

General List.—To be Temp. 2nd Lieuts. (on prob.):—B. S. Hillis, W. E. T. Williams, T. W. B. Hinch, A. J. Battell, H. C. Hayes, R. E. White, A. W. Jennings; Dec. 12th, 1917.

London Gazette Supplement, January 31st.

The following temp. appointment is made at the War Office:—
Staff Lieutenant.—Lieut. B. D. Bellamy, Essex R., from a Flying Officer, vice 2nd Lieut. (Temp. Capt.) A. O. Betts, R.F.C., S.R.; Jan. 1st.

The following appointments are made:—
Flying Officers.—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—K. Whitney; Oct. 18th, 1917. Ralph Bevin Smith; Nov. 12th, 1917. J. Farley, E. J. Jacques; Nov. 15th, 1917. D. L. Hobson, C. B. Stenning; Nov. 16th, 1917. R. G. Hall; Dec. 3rd, 1917. W. H. Smith; Dec. 5th, 1917.

Flying Officers (Observers).—2nd Lieut. F. R. D. Wickham, Bord. R., S.R., and to be sec'd.; Dec. 18th, 1917, seniority July 17th, 1917. 2nd Lieut. R. R. White, Yeo. (T.F.), and to be sec'd.; Dec. 7th, 1917, seniority July 30th, 1917. Temp. Lieut. L. N. Jones, S. Wales Bord., and to be transfd. to R.F.C., Gen. List; Dec. 9th, 1917, seniority Sept. 23rd, 1917. Lieut. R. Bellamy, North'n. R., S.R., and to be sec'd.; Dec. 7th, 1917, seniority Oct. 10th, 1917. Lieut. J. T. Richardson, Dur. L.I. (T.F.), seniority from Oct. 10th, 1917, and to be sec'd.; Lieut. B. E. Gilbert, Canadian Exped. Force, seniority Oct. 11th, 1917; Dec. 18th, 1917. Temp. 2nd Lieut. J. C. O'Reilly-King, Yorks. L.I., and to be transfd. to R.F.C., Gen. List; Dec. 8th, 1917, seniority Oct. 16th, 1917. Temp. Lieut. H. A. Parry, R. W. Fus., and to be transfd. to R.F.C. Gen. List; Dec. 18th, 1917, seniority Oct. 23rd, 1917. 2nd Lieut. F. N. S. Creek, Dur. L.I. (T.F.), and to be sec'd.; Dec. 8th, 1917, seniority Nov. 4th, 1917; Temp. 2nd Lieuts. (on prob.) Gen. List, and to be confirmed in their rank:—T. P. S. Summerson, seniority Sept. 18th, 1917; R. R. Millar, seniority Sept. 24th, 1917; Dec. 7th, 1917.

Equipment Officers, 1st Class.—Major C. C. Colley, R.A., from a Special Appointment, Ministry of Munitions (graded as a Staff Capt. at War Office); Dec. 28th, 1917. Temp. Capt. R. G. Taylor, Gen. List, from the 2nd Cl.; and Lieut. (Temp. Lieut.) A. O. Betts, S.R., from a Staff Lieut., and to be Temp. Capt. whilst so employed; Jan. 1st.

2nd Class.—Lieut. H. E. L. Pilbrow, S.R., Res., from the 3rd Cl.; Jan. 1st. The appointment of Lieut. J. Brown, notified in Gazette of Feb. 12th, 1917, is cancelled.

3rd Class.—Temp. 2nd Lieut. (on prob.) A. Morrison, Gen. List, and to be confirmed in his rank; Nov. 21st, 1917. The appointment of Temp. 2nd Lieut. A. R. Morrison, Gen. List, notified in Gazette of Dec. 19th, 1917, is cancelled.

Schools of Instruction.—Schools of Military Aeronautics.
Instructor (graded as an Equipment Officer, 1st Class).—The grading of Temp. Capt. C. G. Durham, Gen. List, is as now described, and not as in Gazette of Oct. 15th, 1917.

General List.—Temp. Capt. A. E. Thomas relinquishes his commission on account of ill-health, contracted on active service, and is granted hon. rank of Capt.; Feb. 1st. Capt. J. Hewitt, S. Afr. Inf., to be Temp. Capt.; Oct. 1st, 1917. Temp. 2nd Lieut. H. L. McIntock to be Temp. Lieut.; Aug. 30th, 1917. To be Temp. 2nd Lieuts. (on prob.):—H. L. Breakey, A. Buchanan, T. J. Cook, L. R. Curtis, J. J. Daly, H. C. Dean, J. M. Dillou, L. J. Farley, A. Galt, J. G. Hall, A. C. Hardy, G. S. Harvey, R. Kilpatrick, H. A. Kullberg, J. R. Landry, F. W. H. Martin, D. A. Martin, W. F. McCarthy, B. Mignault, C. H. Moss, J. A. Nolan, G. Palardy, J. Patenaude, L. H. Ray, D. J. Russell, H. B. Scott, L. H. Smith, W. C. Sterling, J. R. Tansey, N. T. Trembath, J. M. Vennell, C. E. Walton; Dec. 12th, 1917. A. Alcorn, W. Amory, J. K. Blair, H. L. Brown, E. C. Burton, E. P. Cavanah, F. R. Christiani, A. B. Ferguson, J. T. Hall, A. W. Manby, F. W. McCarthy, H. D. McKay, L. J. Rainboth, W. J. C. Smith, J. C. Stockman, J. L. Wray, R. S. Wood; Dec. 14th, 1917. W. H. Ayre; Jan. 14th.

London Gazette Supplement, February 1st.

The following temporary appointments are made at the War Office:—
Staff Captain.—Lieut. A. L. Butcher, R.F.C., S.R., from a Staff Lieut., and to be Temp. Capt. whilst so employed; Jan. 1st.

Military Wing.—The following appointments are made:—

Flying Officers.—Temp. 2nd Lieut. R. J. MacLachlan, Garr. Bn., Suff. R., and to be transfd. to R.F.C. Gen. List; Dec. 23rd, 1917. Lieut. E. E. Burdett, Canadian Exped. Force; Lieut. J. Daniel, Lond. R. (T.F.), and to be sec'd.; Jan. 3rd. Lieut. W. S. Lawson, Arg. and Suth'd. Highrs. (T.F.), from a Flying Officer (Ob.), with seniority Jan. 30th, 1917. Lieut. J. Grimshaw, Canadian Exped. Force; 2nd Lieut. H. A. Seaby, R.F.A., S.R.; Jan. 4th. Lieut. V. H. McElroy, Canadian Engineers; Jan. 5th. The appointment of Temp. 2nd Lieut. O. St. C. Harris, Gen. List, notified in the Gazette of Jan. 14th, is antedated to Nov. 8th, 1917.

Flying Officers (Observers).—Lieut. D. M. Baird, Gord. Highrs., seniority July 25th, 1917, and to be sec'd.; Lieut. A. J. Ferrier, Shrops. L.I., S.R., seniority Sept. 3rd, 1917, and to be sec'd.; Dec. 21st, 1917. Lieut. L. S. Gray, Lond. R. (T.F.), seniority Sept. 24th, 1917, and to be sec'd.; Lieut. A. Gibson, Canadian Exped. Force, seniority Oct. 11th, 1917; Dec. 23rd, 1917. Dec. 23rd,

1917, seniority Oct. 24th, 1917.—2nd Lieut. M. B. Brown, Lond. R. (T.F.), and to be secd.; 2nd Lieut. F. C. Farrington, R.A., and to be secd. 2nd Lieut. J. W. Baker, R.A., seniority Oct. 25th, 1917, and to be secd. Capt. T. G. Hyde, Manch. R. (T.F.), seniority Nov. 12th, 1917, and to be secd.; Dec. 23rd, 1917. Temp. 2nd Lieut. W. T. V. Harmer, Sea. Highrs., and to be secd. to R.F.C. Gen. List; Dec. 9th, 1917, seniority Oct. 18th, 1917. Jan. 6th: 2nd Lieut. W. C. Venmore, Lond. R. (T.F.), seniority Oct. 18th, 1917, and to be secd. Lieut. P. S. Driver, A.S.C. (T.F.), seniority Oct. 21st, 1917, and to be secd. Temp. Capt. J. A. Mansfield, York R., and to be secd. to R.F.C. Gen. List; Nov. 22nd, 1917, seniority Nov. 12th, 1917. Temp. Lieut. J. E. G. Mosby, R.A., and to be secd. to R.F.C. Gen. List; Jan. 5th, seniority Nov. 21st, 1917. Temp. Lieut. P. W. Anderson, attd. R. Highrs., and to be secd. to R.F.C. Gen. List; Jan. 6th, seniority Nov. 28th, 1917. Lieut. G. H. H. Scutt, L'pool. R., and to be secd.; Dec. 28th, 1917, seniority Oct. 23rd, 1917. Lieut. H. W. M. Mackay, Gord. Highrs. (T.F.), and to be secd.; Dec. 30th, 1917, seniority Oct. 25th, 1917. 2nd Lieut. R. H. W. Empson, Durh. L.I. (T.F.), and to be secd.; Dec. 22nd, 1917, seniority Oct. 26th, 1917. Dec. 22nd, 1917, seniority Nov. 4th, 1917.—Temp. Capt. J. H. Hedley, Labour Corps, and to be secd. to R.F.C. Gen. List; Lieut. S. H. P. Masding, Mon. R. (T.F.), and to be secd. Temp. 2nd Lieut. F. Keith, R. Fus., and to be secd. to R.F.C. Gen. List; Dec. 28th, 1917, seniority Nov. 6th, 1917. 2nd Lieut. A. G. Wilson, W. York. R. (T.F.), and to be secd.; Dec. 30th, 1917, seniority Nov. 11th, 1917. Temp. 2nd Lieut. (on prob.), Gen. List, and to be confirmed in their rank; Dec. 29th, 1917. F. Forster, seniority Aug. 22nd, 1917; A. C. Thornton, seniority Oct. 18th, 1917. Dec. 31st, 1917, seniority Nov. 4th, 1917.—M. F. St. Clair-Fowles, S. G. Waine, G. B. Williams; Dec. 23rd, 1917, seniority Sept. 17th, 1917. C. F. Nathan; Dec. 21st, 1917, seniority Sept. 18th, 1917. M. H. Scott; Dec. 23rd, 1917, seniority Sept. 18th, 1917. H. S. Murdock; Jan. 5th, seniority Sept. 18th, 1917. O. I. Norton; Dec. 5th, 1917, seniority Sept. 18th, 1917. N. S. Wolfendale; Dec. 1st, 1917, seniority Sept. 24th, 1917. Jan. 5th, seniority Sept. 24th, 1917.—W. H. Leighton, I. D. Smith, A. G. Koerner; Jan. 6th, seniority Oct. 12th, 1917.

Adjutant.—Capt. G. C. May, Bord. R., and to be secd.; Jan. 3rd.

Equipment Officers, 1st Class.—Temp. Lieut. W. A. Andrews, Gen. List, from the 2nd Cl., and to be Temp. Capt. while so employed; Dec. 14th, 1917. 2nd Class.—From the 3rd Cl. and to be Temp. Lieuts. while so employed.—2nd Lieut. T. E. Mills, S.R.; Dec. 1st, 1917. 2nd Lieut. D. N. Keith, S.R.; Dec. 14th, 1917. 3rd Cl.—Temp. 2nd Lieut. (on prob.) W. H. Hodson, Gen. List, and to be confirmed in his rank; Sept. 29th, 1917. 2nd Lieut. T. J. Hudson, from a Camp Comdt. (graded as a Staff Capt.); Oct. 16th, 1917, seniority April 1st, 1917.

Schools of Instruction.—School of Technical Training.

Park Commander.—Temp. Capt. G. K. Field, Gen. List, and to be Temp. Major while so employed; Jan. 16th.

General List.—The notification in the Gazette of September 28th, 1917, regarding Temp. 2nd Lieut. W. H. Hodson is cancelled. To be Temp. 2nd Lieuts. (on prob.):—1st Cl. Air Mech. V. C. Sykes, from R.F.C.; Oct. 20th, 1917. Sgt. H. J. Crampton, from E. Kent R. (T.F.); Nov. 2nd, 1917. 1st Cl. Air Mech. A. H. Pownall, from R.F.C.; Nov. 23rd, 1917. G. C. Walsh; Jan. 14th. A. E. Simmonds; Jan. 25th. Cadets to be Temp. 2nd Lieuts. (on prob.):—F. Allsop, F. W. B. Anderson, K. R. Angus, F. E. Asboe, W. F. Ayrton, W. Badger, W. R. Baskerville, J. L. Beattie, S. W. Beckett, C. C. M. Bell, C. H. Bizzell, A. H. Bliss, F. C. Bowler, H. G. R. Boyd, J. B. G. Bradley, G. Brazen-dale, C. Brooks, J. T. Brown, A. D. L. Carroll, C. F. Cawley, G. McG. Chalmers, W. J. Cheney, J. H. Clark, W. Clark, A. B. Clay, J. V. Dallin, N. de Gersigny, E. W. C. Denham, H. Dodd, G. E. Dorman, C. N. Drew, J. L. Eastwood, J. B. Eberts, J. R. A. Farlan, F. Fawcett, K. N. Finlay, L. H. Forbes, R. U. Fuller, H. H. Gardner, J. D. L. Garrod, P. S. Gaster, A. Gertrey, C. F. Geyton, J. E. Gibbons, A. Gibson, H. W. Goldsack, J. Golman, G. K. Green, H. T. Green, C. E. Gregory, A. T. S. Grigsby, A. L. Hadlow, C. A. Harrison, S. W. Harrison, H. E. Higginson, J. R. Hill, W. Hodder, E. G. Holloway, P. C. Holloway, O. D. Horton, C. L. Hudson, H. J. Hudson, R. E. E. Humble, T. Irvine, W. H. Irvine, H. M. Jacques, R. C. Jennings, W. E. Keel, K. S. Laurie, N. H. Leach, F. S. Legg, C. S. Leslie, M. J. Levine, D. Lewis, G. Lovett, T. B. Lowton, L. D. St. A. Lyon, T. L. Lysaght, J. N. MacDonald, A. W. Mackay, R. V. N. Make-peace, H. C. Maller, V. A. Mather, J. M. McChery, L. McIver, J. H. McKenzie, R. Menzies, J. M. Meston, V. M. Mitchell, W. H. Mitchell, R. W. Murdoch, F. Neale, A. C. New, J. G. Newton, G. A. H. Nudds, H. J. O'Connor, H. Ord, J. Packer, F. H. Pearson, C. W. C. Peene, A. R. Pengilly, H. W. F. Pennick, E. A. Pudney, H. Rae, S. T. C. Roberts, A. A. Robinson, L. T. A. Robinson, H. L. Roper, G. L. Simpson, A. Smith, N. S. Smith, S. A. Smith, W. H. Smith, T. G. Speake, W. F. Stanland, H. C. Stanley, W. Stephenson, W. D. Straight, A. C. Sutcliffe, A. A. Swait, E. Sykes, R. F. Talbot, A. T. Taylor, G. V. L. Taylor, C. E. Trippie, H. M. Tudor, D. T. Turnbull, H. F. Turner, H. E. Twaits, H. N. Van Duzer, A. Vickers, J. H. Waddington, T. R. Walkington, S. L. Walters, F. H. Smith, L. G. Warren, R. W. A. Watchorn, M. Watt, S. P. Watts, E. G. L. Weaver, P. C. Weaver-Adams, G. F. Williams, F. J. H. Willis, W. B. Willis-croft, F. E. Winter, H. L. Wood; Jan. 24th.

Memorandum.—Sgt. Major A. Jukes to be 2nd Lieut. for duty with R.F.C.; Dec. 29th, 1917.

Special Appointments.

Graded for purposes of pay as a Brig.-Major, while employed as 2nd in Comd. of an R.F.C. Cdt. Wing.—Major A. M. Grenfell, D.S.O., Yeo. (T.F.), vice Bt.-Major K. F. Woolhouse, Notts. and Derby R., S.R.; Jan. 1st.

Staff Officer, 3rd Class.—The appointment of Lieut. V. Buxton, Leic. R. notified in the Gazette of Dec. 11th, 1917, is post-dated to Dec. 22nd, 1917.

The following appointments are made:—

Flight Commanders.—From Flying Officers, and to be Temp. Capt. while so employed:—Temp. 2nd Lieut. J. B. Fox, Gen. List; Dec. 28th, 1917. Lieut. F. H. Hodgson, S.R.; Jan. 17th.

Flying Officers.—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed

in their rank:—F. C. Tarbutt; Nov. 23rd, 1917. L. Richardson; Nov. 24th, 1917. O. B. Swart, H. J. Miles; Dec. 22nd, 1917. K. Y. Gliddon; Dec. 28th, 1917. G. Cameron; Dec. 29th, 1917. H. K. Cassels; Jan. 5th. J. Hardie, E. R. W. Millar; Jan. 6th.

Flying Officers (Observers).—Dec. 16th, 1917:—2nd Lieut. A. S. Balfour, R.F.A., S.R., seniority from Sept. 3rd, 1917. Temp. Capt. S. Broadbent, Gen. List, seniority from Sept. 10th, 1917. 2nd Lieut. I. H. Scanlon, R. Dub. Fus., S.R., seniority from Sept. 19th, 1917, and to be secd. 2nd Lieut. I. S. Thomas, A.S.C., seniority from Oct. 11th, 1917, and to be secd.; 2nd Lieut. G. B. Pershouse, N. Staff. R., and to be secd.; Dec. 18th, 1917, seniority from Oct. 18th, 1917. Dec. 19th, 1917, seniority from Nov. 21st, 1917.—Lieut. A. Reeve, Can. Exped. Force; Temp. Lieut. C. C. Robson, R. Scots, and to be secd. to R.F.C. Gen. List. Temp. 2nd Lieut. (on prob.), Gen. List, and to be confirmed in their rank:—Dec. 16th, 1917, seniority from Sept. 17th, 1917:—K. Barford, J. O. Comber, N. L. Cornforth; J. F. Titmas; Dec. 17th, 1917, seniority from Nov. 4th, 1917. E. C. Gilroy; Dec. 19th, 1917, seniority from Nov. 21st, 1917.

Equipment Officers, 3rd Class.—Temp. Lieut. W. Bagnall, Gen. List, from a Flying Officer; Aug. 21st, 1917. 2nd Lieut. F. P. Williams, S.R., from a Flying Officer; Dec. 12th, 1917. Temp. Lieut. G. Ryall, Manch. R., and to be secd. to R.F.C. Gen. List; Dec. 26th, 1917. Temp. Lieut. J. Millar-Whitfield, R.E.; Jan. 1st. Temp. Capt. T. A. Ross, R.E.; Jan. 8th. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—C. Shears; Dec. 15th, 1917. H. H. Miller; Dec. 21st, 1917. A. W. Rippon; Dec. 22nd, 1917. A. Kennish; Dec. 26th, 1917. A. C. Tinkler; Dec. 28th, 1917. F. C. Worton; Jan. 2nd.

School of Instruction.—Schools of Military Aeronautics.

Commandant (graded as a Squadron Commander).—Capt. J. E. Dixon-Spain, Hamps. R., a Flight Comdr., and to be Temp. Major while so employed; March 14th, 1917.

Chief Instructors.—Graded as a Park Commander:—Temp. Capt. C. E. I. C. Anne, Gen. List, a Flight Comdr. (since decd.), and to be Temp. Major whilst so employed; March 28th, 1917. Graded as a Sqdn. Comdr.:—Temp. Capt. C. Danby, M.C., Gen. List, a Flight Comdr. and to be Temp. Major whilst so employed, vice Temp. Capt. C. E. I. C. Anne, Gen. List (decd.); April 16th, 1917.

Instructors.—Graded as a Flight Commander:—Temp. Capt. F. D. Berridge, Gen. List, a Flight Comdr.; March, 14th, 1917. Graded as an Equipment Officer, 1st Cl.:—Temp. 2nd Lieut. F. Crompton, Gen. List, an Equipment Officer, 3rd Cl., and to be Temp. Capt. whilst so employed; March, 14th, 1917.

Assistant Instructors (graded as Equipment Officers, 2nd Class and to be Temporary Lieutenants whilst so employed).—Temp. 2nd Lieut. (on prob.) B. Benson, Gen. List, and to be confirmed in his rank; July 13th, 1917. Temp. 2nd Lieut. N. Goodwin, Gen. List, an Asst. Instr. in Gunnery (graded as an Equipment Officer, 3rd Cl.); Aug. 30th, 1917.

Assistant Instructor in Gunnery (graded as an Equipment Officer, 2nd Class).—Temp. 2nd Lieut. R. C. Nicholls, Bedf. R., and to be secd. to R.F.C. Gen. List, and to be Temp. Lieut. whilst so employed; March 17th, 1917.

General List.—Temp. 2nd Lieut. (Temp. Capt.) P. Seymour relinquishes his temp. rank on ceasing to be specially employed; Jan. 26th. Temp. 2nd Lieut. D. R. Thomas, an Equipment Officer, 3rd Cl., to be Temp. Capt. (without the pay or allowances of that rank) whilst specially employed; Jan. 26th. Temp. Lieut. H. F. Darby relinquishes his commission on account of ill-health contracted on active service, and is granted the hon. rank of Lieut.; Feb. 3rd. Temp. 2nd Lieuts. resign their commissions:—C. J. Sedgwick, F. E. Leach, E. J. Nicholls; Feb. 3rd. Temp. 2nd Lieut. F. J. Cunningham relinquishes his commission on account of ill-health contracted on active service, and is granted the hon. rank of 2nd Lieut.; Feb. 3rd. The following from R.F.C. to be Temp. 2nd Lieuts.:—3rd Cl. Air Mech. F. S. Maxwell; Oct. 30th, 1917. Flight Sgt. F. C. Lyne; Nov. 3rd, 1917. 2nd Cl. Air Mech. A. E. Fallon; Nov. 12th, 1917. The appointment of the following Cadets as Temp. 2nd Lieuts. (on prob.), notified in Gazette of Jan. 15th, is cancelled:—W. Dixon, W. F. M. Wise. Cadets to be Temp. 2nd Lieuts. (on prob.):—M. F. Johnstone, F. F. J. Wise; Jan. 5th. Lieut. O. T. Sloan, Sco. Rif. (T.F.), to be Temp. Capt. (with pay and allowances as Lieut.) whilst acting as Adj.; Dec. 18th, 1917.

London Gazette Supplement, February 4th.

The following appointments are made:—

Flying Officers.—Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—J. S. Michie; Sept. 7th, 1917. D. W. Hughes; Nov. 19th, 1917. L. D. Adams, J. C. Douglas, G. T. Miles; Dec. 5th, 1917. C. C. Boldrick; Dec. 13th, 1917.

Assistant Instructor in Gunnery (graded as an Equipment Officer, 3rd Class).—The unit of 2nd Lieut. (acting Lieut.) H. S. Royffe, Middx. R., is as now described, and not as in the Gazette of Jan. 7th.

Equipment Officer, 3rd Class.—Temp. Qrmr., and Hon. Capt. H. Gardiner, Gen. List; Lieut. H. F. Jupp, R.F.A., S.R.; Temp. 2nd Lieut. W. D. Squire, R.A., and to be secd. to R.F.C. Gen. List; 2nd Lieut. M. P. Spencer, Norf. R., and to be secd. Temp. 2nd Lieuts. (on prob.), Gen. List, and to be confirmed in their rank:—R. B. Aitken, C. J. Ashdown, G. Johnson; Jan. 9th.

General List.—Temp. 2nd Lieut. F. A. Taylor relinquishes his commission on account of ill-health contracted on active service, and is granted the hon. rank of 2nd Lieut.; Feb. 5th. Cdt. E. Edward to be Temp. 2nd Lieut. (on prob.) for duty with R.F.C.; Jan. 19th. To be Temp. 2nd Lieuts. (on prob.):—F. E. Beauchamp; Dec. 12th, 1917. F. S. Hetherington; Dec. 28th, 1917. F. N. Lynch-White; Jan. 12th. Sgt. L. G. Mace, from R.F.C.; Jan. 14th. The surname of G. E. Shearmur is as now described, and not as in the Gazette of Sept. 5th, 1917, and subsequent Gazettes.

Aeronautical Inspection Department.

London Gazette Supplement, January 29th.

To be Temp. Hon. Lieut.:—S. Fitzgerald whilst employed as Assistant Inspector A.I.D.; June 1st, 1917.



QUESTIONS IN PARLIAMENT.

Anti-Aircraft Service.

MAJOR DAVIES in the House of Commons on January 28th asked the Under-Secretary of State for War whether it is intended to replace night-time volunteers engaged upon anti-aircraft work by whole-time men on active service; whether the efficiency of the anti-aircraft service in London is prejudiced by the employment of part-time men; and, if not, whether, having regard to the demands of the Army on the man-power of the country, the services of part-time men can be continued?

Mr. Macpherson: In regard to the first and second parts of the question, I would refer my hon. and gallant friend to the answer given on the 23rd instant to my hon. friend the member for Haggerston. The answer to the last part is in the negative for the reasons given, except to the extent to which it is proposed still to employ part-time men for duties which can be performed efficiently by them. These part-time men are not volunteers, but belong to the Naval Volunteer Reserve, and are paid as such.

Air Raids (Steel Helmets).

MR. MURRAY MACDONALD asked the Secretary of State for the Home Department whether steel helmets are supplied to every member of the special

constabulary force within the Metropolitan area; whether the existing supply is kept at the headquarters of each district; whether members of the force, when summoned during an air raid, have to make their way from their homes to their headquarters exposed to risks often as great as those to which they are exposed when actually on their stations; and, seeing that it is the duty of the Government to protect them, so far as possible, from these risks by providing helmets, will he see that every member of the force is so provided with a helmet which he may take to his own home?

Sir G. Cave: A supply of helmets is kept at each police station for the use of such members of the regular and special constabulary and air raid relief parties as may be sent out when the guns are firing or likely to fire. Helmets are not issued to the regular or special police as part of their general equipment, and the circumstances would not justify such a general issue.

Mr. Macdonald: Is the right hon. gentleman aware that these men are exposed to serious risks when summoned on the occasion of an air raid in going from their homes to the headquarters?

Sir G. Cave: No doubt that is a statement of fact, but the men have warning some time before the raid occurs.

Air Services. Medical Advisory Board.

COLONEL SIR HAMAR GREENWOOD on January 29th asked the Prime Minister if he will publish for the information of the House the Report of the Medical Advisory Board in reference to the medical service of the Air Force?

The Parliamentary Secretary to the Air Board (Major Baird): As the arrangements for the medical care of the Air Force are still under consideration, it would be inadvisable to publish this Report.

Mr. Joynton-Hicks: May I ask whether the Air Board have given very careful consideration to the Report of the Committee, with a view to establishing this service as soon as possible?

Major Baird: It is receiving very careful consideration.

Aircraft Construction in Ireland.

Mr. BYRNE on January 31st asked the Under-Secretary of State to the Air Ministry whether his attention has been drawn to the request of the Dublin branch, Society of Coachmakers, in which they ask the Government to adopt a scheme by which construction of aircraft could be immediately proceeded with on Irish railways, where other work is suspended, and also other coach-building factories where up-to-date machinery exists; and if he will consider the request?

Sir W. Evans: The request has been carefully considered. For the present it is not possible to make use of the facilities referred to in my hon. friend's question, as arrangements have already been made which are more than sufficient to meet all our present demands for woodwork in connection with the manufacture of aircraft. I hope it may be possible later on to make use of Irish coachbuilding factories for work of this nature.

Leaflets from Aeroplanes.

MR. ANDERSON asked the Under-Secretary of State for War whether he has now received a Report as to the circumstances in which aeroplanes circled over Coventry and dropped leaflets containing an article which had appeared in a London newspaper; who authorised these proceedings and who paid for the leaflets; and whether the use of Government aeroplanes for this purpose was sanctioned by the War Office?

Mr. Macpherson: The distribution of these leaflets from aeroplanes was made at the suggestion in his private capacity of an officer serving in London who is also member of this House. He paid for the leaflets at his sole expense, the newspaper making no contribution to the cost. The use of Government aeroplanes was authorised by the authorities of the R.F.C., but special flights were not made for the purpose. They were distributed during a testing trip.

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

British.

Our aeroplanes took advantage of the good visibility prevailing on Monday to carry out a large amount of work in conjunction with our artillery and to photograph the enemy's distant aerodromes and lines of defence. During the day they dropped 400 bombs on various objectives, including Roulers, Menin and an aerodrome near Tournai. Several thousands of rounds were fired from our machines at enemy troops in the trenches and on roads in the back areas. Air fighting was continuous throughout the day, and resulted in two hostile machines being shot down and six others being driven down out of control. Three of our machines are missing. During the night of Monday-Tuesday our aeroplanes were unable to leave their aerodromes until 2 a.m. owing to a heavy mist. Nevertheless, over 6½ tons of bombs were dropped on the enemy's billets, railway stations, and trains, and two night-flying aerodromes near Ghent and Tournai. All our machines returned from these bombing raids."

General Headquarters, January 29th.

"During January 28th a bombing raid was carried out by naval aircraft on the enemy aerodromes at Aertrycke and Engel. Many bombs were dropped on objectives. During the usual fighter patrols, two enemy machines were brought down out of control. All our machines returned safely."

Admiralty, January 29th.

"Soon after mid-day on January 29th, naval aircraft raided Coolkerke aerodrome. Many bombs were dropped over the objective. The sheds and hangars were well straddled, and a fire was observed to break out among buildings at the north-west corner of the aerodrome. In the course of the usual fighter patrols, one enemy aircraft was destroyed and one shot down out of control. Many indecisive combats took place. All our machines returned safely."

General Headquarters, January 30th.

"On the 29th instant, fine weather continued, although visibility was not so good as on the previous day. Several reconnaissances of the enemy's back areas were carried out, a great many photographs were taken and much work was accomplished in conjunction with our artillery. Bombing attacks against the enemy's billets, ammunition dumps, and aerodromes were continued by our aeroplanes with the utmost vigour all day, while our low-flying machines engaged the enemy's troops with machine-gun fire. The enemy's scouts were active east of the lines, and made many attacks upon our bombing, reconnaissance, and photographing machines. Eight hostile aeroplanes were brought down in air fighting, and four others were driven down out of control. A German observation balloon was brought down in flames. Three of our aeroplanes are missing. Throughout the night of the 29th-30th instant the enemy dropped bombs on our forward areas. Our own machines actively attacked hostile billets and communications."

General Headquarters, January 31st.

"Another fine day on the 30th instant enabled aerial activity to be maintained, but there was more mist than on the preceding day, and observation for artillery was difficult."

"Several long-distance reconnaissances were carried out by our aeroplanes, in the course of which many photographs were taken."

"A hostile aerodrome south of Ghent, a large ammunition dump east of Roulers, and the railway sidings at Courtrai, were heavily bombed by us, and the enemy's troops, transport, and batteries in action were fired at from the air."

"In air fighting four hostile machines were brought down, and four others driven down out of control; another hostile machine was shot down by anti-aircraft gun fire. None of our aeroplanes are missing."

"During the night of the 30th-31st instant, a few bombs were dropped by the enemy in our forward areas. Our own machines continued the bombing of the enemy's billets, ammunition dumps, and railway stations."

War Office, January 31st.

"Mesopotamia.—On the night of January 24th-25th hostile aeroplanes dropped bombs near Baghdad, causing some casualties in one of our hospitals. On the following night our aeroplanes made successful attacks on Turkish head quarter units and aerodromes."

Admiralty, February 1st.

"During January 31st a bombing raid was carried out by naval aircraft on Engel aerodrome and dump. Direct hits were made and fires started. All machines returned safely."

"A bombing raid on Oostcamp aerodrome was carried out by naval aircraft at noon on January 30th. Many bombs were dropped on the three groups of sheds and hangars. A direct hit was observed on a hangar in the south group, from which a fire and a dense cloud of smoke arose. Two direct hits on the sheds north-west of Oostcamp village caused a fire in each case. Several engagements with enemy aircraft took place, in which one was shot down out of control. In the course of the usual patrols one enemy machine was destroyed and two were shot down out of control. One of our machines failed to return."

War Office, February 1st.

"Salonica.—Our aircraft co-operated with the infantry, dropping bombs on the enemy's batteries near Nikelich (two miles north of the lake). One enemy machine was forced to land between the lines, where it was wrecked by our artillery fire. Another hostile aeroplane was destroyed near Seres on January 31st. Among other objectives, Kustendil (40 miles south-west of Sofia) has been bombed by our machines."

General Headquarters, February 1st.

"Thick mist prevented flying [?] on January 31st] except during two or three hours in the early morning. In this period some work was carried out by our aeroplanes in conjunction with the artillery, and bombs were dropped on a hostile aerodrome north of Thielt [north-east of Roulers], and on an ammunition dump north-east of Courtrai. No fighting took place."

General Headquarters, February 3rd.

"On the 2nd inst. the weather was fine, though with some mist and haze. Several successful reconnaissances were carried out by our aeroplanes, and many hostile batteries were effectively engaged by our artillery with observation from the air. Nearly four tons of bombs were dropped by us during the day on various targets, including the railway station and sidings at Valenciennes. Several thousand rounds were fired at parties of the enemy in their trenches and in back areas. Five hostile machines were brought down in air fighting, and five others were driven down out of control. One of our aeroplanes is missing. On the night of the 2nd-3rd inst. the enemy's aerodromes and billets were bombed by our machines."

Admiralty, February 3rd.

"Naval aircraft bombed the Varssenaere aerodrome on the morning of February 2nd. A fire was observed as the result of a direct hit. An enemy machine engaged on a photographic reconnaissance was attacked and destroyed by our patrol machines. All our machines returned safely."

War Office, February 3rd.

"Palestine Front.—During the month of January 12 enemy aeroplanes were destroyed in aerial combats."

"Italian Front.—There has been considerable aerial activity, in which four enemy machines have been shot down during the last week, while hostile bombing of our back areas has been frequent on suitable nights."

French.

Paris, January 29th.

"On January 27th a German aeroplane was brought down and three others fell damaged in their lines. On the same day our squadrons dropped 6,000 kilogrammes [about six tons] of explosives on the railway stations of Conflans [west of Metz], the factories in the region of St. Privat [north-west of Metz], and various aviation grounds in the enemy zone."

Paris, January 30th.

"During the 29th two German aeroplanes were brought down by our pilots, and three fell in their own lines badly damaged, after fights in the air."

Paris, January 31st.

"On January 29th in the day-time one of our aeroplanes, manned by Capt. Vuillemin and Sub-Lieut. Lecreux, bombarded from a very low altitude the station of Thiaucourt, where a great fire broke out. During the 30th a German aeroplane was brought down by our pilots, and three others fell in their lines after encounters. It is confirmed that three enemy machines which were reported to have been badly damaged on January 9th and 25th were, in reality brought down."

"Salonica.—An enemy aeroplane was brought down in the same region."

"Salonica.—On the right bank of the Tcherna the firing of the Serbian artillery caused a conflagration in an enemy ammunition depot. An enemy biplane was brought down by British airmen."

Italian.

Rome, January 29th.

"Our flight dominated the air everywhere. Numerous hostile machines were attacked and repulsed, while 10 of them were brought down by our airmen and two by the French."

Rome, January 30th.

"Enemy aircraft attempted many reconnoitring and offensive actions, but was effectively met by our machines and the anti-aircraft fire, which during the two days accounted for 17 enemy machines."

Rome, January 31st.

"Our airmen and those of our Allies have attained fresh brilliant victories bringing down seven enemy aeroplanes in all."

"During an effective bombardment of the principal enemy lines of communication to the Plateau of Asiago our machines brought down one aeroplane which attempted to attack them. Our chasing squadrons brought down two machines between Costalunga and Monte Melago. English airmen brought down four machines between Ormelle, on the left bank of the Piave, and Oderzo."

Rome, February 1st.

"Last night enemy aircraft dropped some bombs on Bassano, causing a few wounded and little damage."

Rome, February 2nd.

"Along the whole front fighting activity was limited yesterday to artillery actions, which were more intense in the eastern sector of the Asiago Plateau, with lively reciprocal rifle firing on the part of the advanced posts. The activity of our air squadrons during their scouting expeditions led to several aerial fights, in the course of which two enemy machines were brought down near Turcio (south of Asiago) and in the Brenta Valley. Yesterday towards nightfall enemy aircraft bombarded Treviso and various localities in the region between the Brenta and the Piave. A few men were wounded, and damages of little importance to some buildings are reported."

German.

Berlin, January 29th.

"Lively flying activity led to numerous duels in the air. We brought down yesterday 13 enemy aeroplanes and one captive balloon."

"French airmen continue their attacks on our hospitals. Several times during the month of December they dropped bombs on the hospital buildings of Bethel [?], and during the last few days they have attacked the buildings of Labry (east of Conflans)."

"Italian Front.—One of our bombing squadrons during the night of January 26th-27th dropped 21,000 kilogrammes (about 21 tons) of bombs on Castel-franco, Treviso, and Mestre with good effect. Big fires were seen from a long distance."

Berlin, January 30th.

"Eight enemy aeroplanes and two captive balloons were brought down in air fighting yesterday."

Personals

Casualties.

Second Lieutenant ERIC GODWIN CHANCE, R.F.C., only son of Mr. H. Godwin Chance, editor and part proprietor of the *Gloucester Journal*, was killed on January 19th, aged 19. He was educated at Glyngarth, Cheltenham, and at Wellington College, Salop. At Wellington he was a member of the O.T.C., leaving with the rank of lance-corporal. Before reaching military age he acted as sergeant to the Cadet Corps of the Gloucester V.T.C. Subsequently he joined the Inns of Court O.T.C., and afterwards the R.F.C., in which he received his commission on July 6th last. In September he got his "wings," and on October 20th left for the front. On leaving Wellington he joined the editorial staff of the *Gloucester Journal* and *Citizen*.

Second Lieutenant HERBERT ARTHUR DYER, R.F.C., who was killed while flying over the German lines on December 7th last, was the third son of the late Dr. A. E. Dyer, Mus. Doc., who for twenty-seven years was the musical director and organist of Cheltenham College. News of Lieut. Dyer's death was dropped recently by a German airman in the Allied lines, no details being given, though it is known that he was delayed by engine trouble on the morning of his death, and had to hasten in his attempt to overtake the rest of his patrol. The young officer was a musician from whom much was possible, being a Mus. Bac. of Oxford, and well known to provincial audiences as a conductor, and was as popular in the R.F.C. as amongst his friends. He joined the Army soon after the outbreak of war as a private, and after two and a half years' service in France was given his commission. Both his brothers are serving, the elder, Major Leslie Dyer, of the Cheshire Regiment, being one of the "Old Contemptibles" of Mons, who has recently been transferred by the Germans to Holland; while the other, Lieut. F. G. Dyer, is in the R.N.V.R.

Captain WILFRID ALLAN FLEMING, M.C., Devonshire Regiment and R.F.C., who was killed in action on August 10th, 1917, aged 27, was the only son of A. S. Fleming, I.C.S. (retired), Millholme, Chagford, Devon.

Major WILLIAM ROBERT GREGORY, M.C., R.F.C., news of whose death in action has been received at Coole Park, Co. Galway, was the son of Lady Gregory, the well-known dramatist and writer on Irish folklore, and of the late Sir William Gregory, formerly Member of Parliament for Co. Galway, and Governor of Ceylon. He was born in 1881 and married in 1907 Lily Margaret, daughter of the late Graham Graham-Parry, of Cobham, Virginia, U.S.A.

Second Lieutenant J. G. COWELL, Royal Fusiliers, attached R.F.C., who was accidentally killed while flying in Wiltshire on January 28th, was the only son of Major and Mrs. E. J. L. Cowell.

Probationary Flight-Officer HAROLD LANGSTONE, R.N.A.S., who was killed in a flying accident at the front on January

22nd, aged 19, was the only son of Mr. and Mrs. C. Langstone, of Aylesbury. He was educated at Aylesbury Grammar School, and was afterwards articled to Mr. R. T. Stewart, the surveyor to the Aylesbury Rural District Council. When 18 years of age he joined the Queen's Westminster Rifles, but was afterwards accepted for the R.N.A.S. as a probationary flight-officer. After passing through Greenwich College, he went to a British Flying School abroad, where the fatal accident occurred.

Lieutenant RUPERT ERNEST NEVE, R.F.C., who was killed in an aeroplane accident near London on January 26th, aged 24, was a twin son of the late A. H. Neve, J.P., and Mrs. Neve, of Maidenhead. Early in the war he enlisted in the Public Schools Battalion of the Royal Fusiliers, and subsequently was gazetted to the Shropshire Light Infantry, but after a short interval transferred to the R.F.C. Last March, after six months' flying in France, he was severely wounded during an aerial fight, but brought his machine safely into the British lines. After a long period in hospital he returned to duty, and acted as instructor at an aerodrome in England. He was recently reported fit for active service.

Second Lieutenant CHARLIE E. ROWLEY, R.F.C., who was accidentally killed in an aeroplane collision on January 19th, aged 19, was the only son of H. R. Rowley and Alphonsine his wife, and grandson of the late Charles Rowley, Nether Stowey, Bridgwater.

Married.

On February 2nd, at Long Ditton Parish Church, Captain HENRY RICHARD KAVANAGH, Royal Irish Fusiliers and R.F.C., only son of Hope Kavanagh, of Gorakpur, India, and grandson of William Henry Kavanagh, V.C. (Lucknow), was married to SYLVIA ELEANOR, younger daughter of JAMES MARTIN, J.P., Surrey, of Bellair, Surbiton.

To be Married.

The marriage arranged between Wing-Commander F. K. McCLEAN, R.N.A.S., son of the late Frank McClean, F.R.S., LL.D., of Rusthall House, Tunbridge Wells, and Aileen, daughter of Mr. and Mrs. W. H. Wale, of Lapworth, Warwickshire, will take place, leave permitting, on Saturday, February 16th, at 2.30, at St. Paul's, Knightsbridge.

A marriage has been arranged, and will shortly take place, between Major H. STUART EBBEN, O.B.E., R.F.C., and Miss GRACE SPANIER, eldest daughter of Mr. and Mrs. L. Spanier, of East London, South Africa.

The marriage arranged between Captain R. J. SANCEAU, R.F.C., and Miss RUTHERFORD will take place, leave permitting, at the parish church, Reigate, on February 9th, at 12.15.

The marriage arranged between Lieut. CLAUDE SWAIN, R.F.C., son of Capt. Swain, R.A., of Beech Grove, Ryde, Isle of Wight, and IRIS, elder daughter of Mrs. and the late Mr. BERNARD HILLMAN, of 33, First Avenue, Hove, will take place on February 16th, at the Catholic Church of the Sacred Heart, Norton Road, Hove, at 2.30.

Items.

The Right Hon. Sir HENRY NORMAN, Bt., M.P., who has been appointed to be an additional member of the Air Council by the Secretary of State for the Air Force, was made a Privy Councillor at the New Year, and is a man of multifarious activities. He was educated in France, at Harvard, and at Leipzig, and for several years he was on the editorial staff of the *Pall Mall Gazette* in its stirring days under Mr. Stead, and subsequently assistant editor of the *Daily Chronicle*. From journalism he turned to politics, and, elected Liberal member for South Wolverhampton in 1900 and for Blackburn in 1910, was appointed in the latter year to the post of Assistant Postmaster-General. A member of the Inventions Panel of the Ministry of Munitions, he has acted as liaison officer of the Ministry with the French Ministry of Inventions. He has been connected as chairman and member with many committees, particularly those dealing with wireless telegraphy. He founded *The World's Work*, and for many years has been a valuable member of the Committee of the Royal Automobile Club.



A presentation to Mr. William Lowe, Commercial Manager, Arrol-Johnston, Ltd., Dumfries.—The above is an illustration of the Silver Plate presented to Mr. Lowe by the Arrol-Johnston agents of Great Britain and Ireland on the occasion of his appointment to the Board of Directors. The presentation was made at a representative gathering of the agents at Dumfries.

INTERNATIONAL AIRCRAFT STANDARDS.

(Continued from page 130.)

3S18—Specifications for Alloy Steel Bars and Billets for Case Hardening.

(130,000 Lb. Per Sq. In. Tensile Strength.)

GENERAL.—1. The general specifications, 1G1, shall form according to their applicability, a part of these specifications.

MATERIAL.—2. The material for these bars shall be chosen from among the I.A.S.B. standard alloy steels listed below. The composition chosen shall be stated by the manufacturer or contractor; it is further limited as follows: Carbon, not over 0.25 per cent.

MANUFACTURE.—3. (a) The steel shall be manufactured or at least finished by the open-hearth, electric furnace, or crucible process.

(b) A sufficient discard shall be made from each ingot to secure freedom from piping and undue segregation.

(c) The billets from which the bars are made are to be rough turned or chipped to remove all surface defects which might produce seams in the finished bar. No undercutting in chipping will be allowed.

(d) The steel manufacturer shall state the heat treatment recommended for case hardening this steel and to give the physical properties specified.

WORKMANSHIP AND FINISH.—(a) The bars are to be sound, commercially straight, free from pipes, laps, cracks, twists, seams, and damaged ends, and are to have a workmanlike finish. They are to be uniform in quality, within the stipulated margins of manufacture, capable of being turned and threaded readily and of taking a good finish.

(b) Any article may be rejected because of injurious defects or faults in manufacture at any time, notwithstanding that it has previously been accepted by the inspector; it shall be returned to the manufacturer at the latter's expense. This clause shall not be taken to apply to materials fabricated after export.

PHYSICAL PROPERTIES AND TESTS.—5. The bars shall have the following physical properties:

Tensile Test.—(a) Minimum tensile strength, 130,000 lb. per square inch (91.39 kg./mm.²); minimum yield point, 120,000 lb. per square inch (84.36 kg./mm.²); minimum elongation in 2 in. (50.8 mm.) or proportional gauge length, 18 per cent.

Hardness Test.—(b) After carbonising, and tempering, the case must show a minimum Shore scleroscope hardness number of 75.

Impact Test.—(c) When impact testing machines of the pendulum type are available, tests shall be carried out if required to determine the specific impact work of rupture in the core in foot-pounds, (or kilogram-metres). Results markedly lower than the average for this type of material will be sufficient cause for further investigation (or re-heat treatment) of the material.

SELECTION OF TEST SPECIMENS.—6. Three bars of each size rolled from a heat shall be taken and test pieces prepared in accordance with the I.A.S.B. standards. Each test piece and the bar from which it is cut shall be stamped with an identifying number. Should any of the test pieces, after being heat treated in the manner recommended by the steel manufacturer, fail to show the prescribed physical properties, new test pieces similarly identified shall be made from the same three bars. At the option of the purchaser, the steel manufacturer may recommend a different heat treatment for the second set of test specimens, and to that end he may make such tests as he desires from the remainder of the three bars taken for the tests. Should any of the three specimens taken for the final tests fail to show the required physical properties, the bars of that heat of the size represented by the specimens shall be rejected.

DIMENSIONS AND TOLERANCES.—7. The dimensions and tolerances shall be those of the specifications 3S11.

DELIVERY, PACKING, AND SHIPPING.—8. (a) The bars shall be delivered in the annealed state.

(b) The bars shall in general be grouped in bundles weighing not more than 250 lb. (113.4 kg.) unless otherwise agreed between manufacturer and purchaser; the heat number and the I.A.S.B. steel serial numbers shall be plainly marked on the metal tag attached to each bundle. If bars are not so grouped and bundled, each bar shall be plainly marked with the heat number and the I.A.S.B. steel serial number.

CHEMICAL COMPOSITION OF STANDARD ALLOY STEELS.

NICKEL STEELS.

Number.	Carbon.	Manganese.	Phosphorus, maximum.	Sulphur, maximum.	Nickel.	Chromium.
2315	0.10-0.20	0.30-0.60	0.040	0.045	3.25-3.75
2320	.15-.25	.30-.60	.040	.045	3.25-3.75

NICKEL-CHROMIUM STEELS.

Number.	Carbon.	Manganese.	Phosphorus, maximum.	Sulphur, maximum.	Nickel.	Chromium.
3120	0.15-0.25	0.30-0.60	0.040	0.045	1.00-1.50	0.45-0.75
3215	.10-.20	.30-.50	.040	.045	1.50-2.00	.90-1.25
X3315	.10-.20	.30-.60	.040	.045	2.75-3.25	.70-.95
3315	.10-.20	.30-.60	.040	.045	3.25-3.75	1.25-1.75

CHROMIUM-VANADIUM STEELS.

Number.	Carbon.	Manganese.	Phosphorus, maximum.	Sulphur, maximum.	Chromium.	Vanadium, minimum.
6120	0.15-0.25	0.30-0.60	0.040	0.045	0.60-0.90	0.15

When electric or crucible furnace steel is specified, the maximum allowable percentages of phosphorus and sulphur may, at the option of the purchaser, be limited to 0.03 per cent.

3S11—Tolerances on Steel Bars, Sheets, Tubes, Wires and Cables.

The following tables and text indicate the tolerances which will be considered standard for the I.A.S.B.:

TABLE 1.—Standard Steel Bars, Round or Square.

Hot rolled.		Tolerance.	
Size of bar (diameter or width across flats).		Inch.	Millimetre.
Inches.	Millimetres.		
0-0.875	0-22.23	+0.010	+0.25
0.876-1.250	22.25-31.75	+0.015	+0.38
1.251-1.625	31.78-41.28	+0.020	+0.51
1.626-1.875	41.30-47.63	+0.025	+0.64
1.876-3.000	47.65-76.20	+0.050	+1.27
3.001-4.000	76.23-101.60	+0.075	+1.91
4.001-5.000	101.63-127.00	+0.100	+2.54
5.001	127.03	+0.150	+3.81
Bright rolled and drawn.		Tolerance.	
Size of bar (diameter or width across flats).		Inch.	Millimetre.
Inches.	Millimetres.		
0-0.563	0-14.30	-0.002	-0.05
0.564-1.125	14.33-28.58	-0.003	-0.08
1.126-1.875	28.60-47.63	-0.004	-0.10
1.876-3.000	47.65-76.20	-0.005	-0.13
3.001-4.000	76.23-101.60	-0.006	-0.15
4.001-5.000	101.63-127.00	-0.007	-0.18
5.001	127.03	-0.008	-0.20

TABLE 2.—Standard Steel Bars, Hexagon.

Hot rolled.		Tolerance.	
Size of bar (width across flats).		Inch.	Millimetre.
Inches.	Millimetres.		
0-0.875	0-22.23	+0.010	+0.25
0.876-1.250	22.25-31.75	+0.015	+0.38
1.251-2.000	31.78-50.80	+0.020	+0.51
2.001-3.000	50.83-76.20	+0.025	+0.64
3.001	76.23	+0.030	+0.76
Bright rolled and drawn.		Tolerance.	
Size of bar (width across flats).		Inch.	Millimetre.
Inches.	Millimetres.		
0-0.563	0-14.30	-0.002	-0.05
0.564-0.938	14.33-23.83	-0.003	-0.08
0.939-2.000	23.85-50.80	-0.004	-0.10
2.001-3.000	50.83-76.20	-0.005	-0.13
3.001	76.23	-0.006	-0.15

TABLE 3.—Standard Steel Sheets.

Thickness.		Tolerance for sheets 14 inches (355.6 mm.) wide and under.		Tolerance for sheets over 14 inches (355.6 mm.) wide	
Inch.	Millimetres.	Inch.	Millimetre.	Inch.	Millimetre.
00-0.020	0-0.51	+0.001	+0.03	±0.002	±0.05
0.021-0.030	0.53-0.76	-0.002	-0.05	±0.003	±0.08
0.031-0.040	0.79-1.02	±0.002	±0.05	±0.003	±0.08
0.041-0.050	1.04-1.27	±0.003	±0.08	±0.004	±0.10
0.051-0.065	1.30-1.65	±0.004	±0.10	±0.004	±0.10
0.066-0.080	1.68-2.03	±0.004	±0.10	±0.005	±0.13
0.081-0.100	2.06-2.54	±0.006	±0.15	±0.006	±0.15
0.101-0.120	2.57-3.05	±0.006	±0.15	±0.007	±0.18
0.121-0.250	3.07-6.35	±0.006	±0.15	±0.008	±0.20

STEEL TUBES.—1. The following tolerances will be allowed on the outside diameter of tubes:—

Seamless tubes:

For tubes under 1.5 in. (38.1 mm.) diameter ± 0.003 in. (0.08 mm.).

For tubes over 1.5 in. (38.1 mm.) diameter ± 0.005 in. (0.13 mm.).

Welded tubes:

For tubes under 1.5 in. (38.1 mm.) diameter ± 0.005 in. (0.13 mm.).

For tubes over 1.5 in. (38.1 mm.) diameter ± 0.010 in. (0.25 mm.).

The tolerances on couissant or telescoping tubes shall be decided between manufacturer and purchaser.

The permissible limit of variation of wall thickness shall be 10 per cent. of the dimensions specified.

WIRES AND CABLES.—2. The following tolerances will be allowed on wires and cables.

High-Strength Steel Wire.—(a) A permissible variation of 0.002 in. (0.051 mm.) above gauge on all size will be accepted,

but no wire will be accepted having a variation of more than 0.0005 in. (0.013 mm.) below gauge.

19 Non-Flexible Steel-Wire Cable.—(b) There shall be no permissible variation in diameter below size. Cable having a diameter of 0.031 ($\frac{1}{32}$) to 0.156 ($\frac{5}{16}$) in. (0.79 to 3.97 mm.), inclusive, shall have a permissible variation of 10 per cent. above size, and cable having a diameter of 0.1875 ($\frac{3}{16}$) to 0.375 ($\frac{3}{8}$) in. (4.76 to 9.53 mm.), inclusive, shall have a permissible variation of 7 per cent. above size.

7 x 7 Flexible Steel-Wire Cable.—(c) There shall be no permissible variation in diameter below size. Cable having a diameter of 0.063 ($\frac{1}{16}$) to 0.094 ($\frac{1}{8}$) in. (1.59 to 2.38 mm.), inclusive, shall have a permissible variation of 12 per cent.

above size; cable having a diameter of 0.125 ($\frac{1}{8}$) to 0.187 ($\frac{3}{16}$) in. (3.18 to 4.76 mm.), inclusive, shall have a permissible variation of 10 per cent. above size; and cable having a diameter of 0.2187 ($\frac{7}{32}$) to 0.375 ($\frac{3}{8}$) in. (5.56 to 9.53 mm.), inclusive, shall have a permissible variation of 7 per cent. above size.

7 x 19 Extra Flexible Steel-Wire Cable.—(d) There shall be no permissible variation in diameter below size. Cable having a diameter of 0.125 ($\frac{1}{8}$) to 0.187 ($\frac{3}{16}$) in. (3.18 to 4.76 mm.), inclusive, shall have a permissible variation of 10 per cent. above size; and cable having a diameter of 0.218 ($\frac{7}{32}$) to 0.375 ($\frac{3}{8}$) in. (5.56 to 9.53 mm.), inclusive, shall have a permissible variation of 7 per cent. above size.

(To be continued.)



Cylinders for Dissolved Acetylene.

In view of the increasing use being made of the oxy-acetylene welding system in connection with aircraft construction, the Report of the Departmental Committee on cylinders for dissolved acetylene should be studied by those who have to do with the subject at all. The Committee was appointed by Mr. Herbert Samuel, the then Home Secretary, in October, 1916, to consider the regulations in regard to cylinders for dissolved acetylene and to suggest amendments. The recommendations of the Committee, of which Major Cooper-Key, C.B., was Chairman, are as follows:—

1. That a sample of every porous material allowed to be used should be deposited at the Home Office, and that no new material should be used unless a sample has been previously deposited. That the porosity should not exceed 80 per cent.

2. (a) That substitutes for acetone should be allowed; (b) that mixtures of different solvents should not be permitted, at any rate after the conclusion of hostilities; (c) that any Order should make it clear that the solvent must not completely fill the porosity of the porous substance under any rise of temperature likely to be met with in ordinary practice.

3. That the pressure may be raised to 225 lbs. per square inch for all solid drawn cylinders and only for such acetylene welded cylinders above 100 cub. ft. capacity as are so constructed at top and bottom that the strength at these joints is not dependent entirely upon the welds, but this concession to acetylene welded cylinders should apply for a limited period only. The increased pressure should not be allowed in cylinders containing porous substance only without solvent. The pressure allowed should be stated to be at 60 deg. F.

4. (a) That cylinders should be made of mild steel of high ductility of which the carbon content does not exceed 0.25 per cent. and the phosphorus and sulphur each not more than 0.05 per cent.; (b) that the test pressure should be four times the working pressure, and should be maintained for not less than 15 minutes; (c) that as soon as conditions of manufacture allow, the process of welding the joints of acetylene cylinders by the oxy-acetylene process should be discontinued. In the meantime that spinning over the ends constitutes a sufficient safeguard, and should be carried out with welded cylinders of 100 cub. ft. capacity and upwards. Sufficient time to be given for the gradual replacement of cylinders at present in use after the manufacture of solid-drawn cylinders has commenced, but all welded cylinders should eventually be withdrawn from service; (d) that all cylinders should be annealed; (e) that the use of safety plugs should not be required in future.

5. That re-testing of acetylene cylinders may be confined to a thorough visual examination, carried out at intervals, and the results of such examination entered in the history sheet of the cylinder.

6 and 8. That filling stations should be approved by and be subject to inspection by the Home Office, and that regulations be made with regard to imported cylinders requiring a certificate from the importer that the cylinders comply in all respects with regulations imposed upon home filled cylinders.

7. That where one company undertakes to recharge the cylinders manufactured by another company they should first obtain any necessary information both as regards porous material and solvent.

9. That certain marking on cylinders should be compulsory, and that records should be kept. These recommendations are set out in detail.

10. That the charging of acetylene cylinders by the application of low temperature should be allowed, and, if deemed to be prohibited by the existing Order in Council, this Order should be amended.

11. That any use of acetylene cylinders except that for which they are designed should be prohibited.

NEW COMPANIES REGISTERED.

AERO TANKS, LTD., Capel House, 54, New Broad Street, E.C.—Capital £2,500, in 10s. shares. Timber and wood merchants and workers, aeroplane makers, engineers, &c.

ALLIANCE AEROPLANE CO., LTD.—Capital £451,000, in £1 shares (450,000 ordinary and 1,000 deferred). Manufacturers of and dealers in aeroplanes, airships, balloons, &c.

FORTLUMINIUM, LTD.—Capital £10,000, in 9,500 ordinary shares of £1 each and 10,000 deferred shares of 1s. each, to establish and develop the aluminium alloy known as "Fortluminium." First Directors:—F. R. Rand and J. T. Lane.

PORTHOLME AIRCRAFT CO., LTD.—Capital £60,000, in £1 shares. Acquiring business carried on by the Portholme Aerodrome, Ltd.

BUSINESS NAMES REGISTRATIONS.

AERIAL CONSTRUCTION CO. (107,131.)—Registered, December 12th, 1917. Aeronautical engineers, Hampton Court Road, Middlesex. Business commenced, December 3rd, 1917. Partners:—C. R. Whittle (British), 3, Binfield Road, Stockwell, S.W.; W. G. Haines (British), 1, Grosvenor Villas, Park Road, East Molesey; E. Brittain (British), "Tunstall," Summer Road, East Molesey.

Aeronautical Patents Published.

Applied for in 1916.

The numbers in brackets are those under which the specifications will be printed and abridged, &c.

Published, February 7th, 1918.

14,106. I. F. TAYLOR AND S. PICK. Bombs, &c., for use on aircraft. (112,472.)
17,503. R. WHEATLEY. Fabric for aeroplanes, &c. (112,483.)

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Published, February 7th, 1918.

8,820. G. ROESCH. Liquid-fuel containers for use on aircraft. (108,115.)

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